High-Low Power Examination Tables

MIDMARK®

Service and Parts Manual

Model Numbers:

222 -001 thru -010

223 -001 thru -010

622 -001 thru -002

623 -001 thru -002

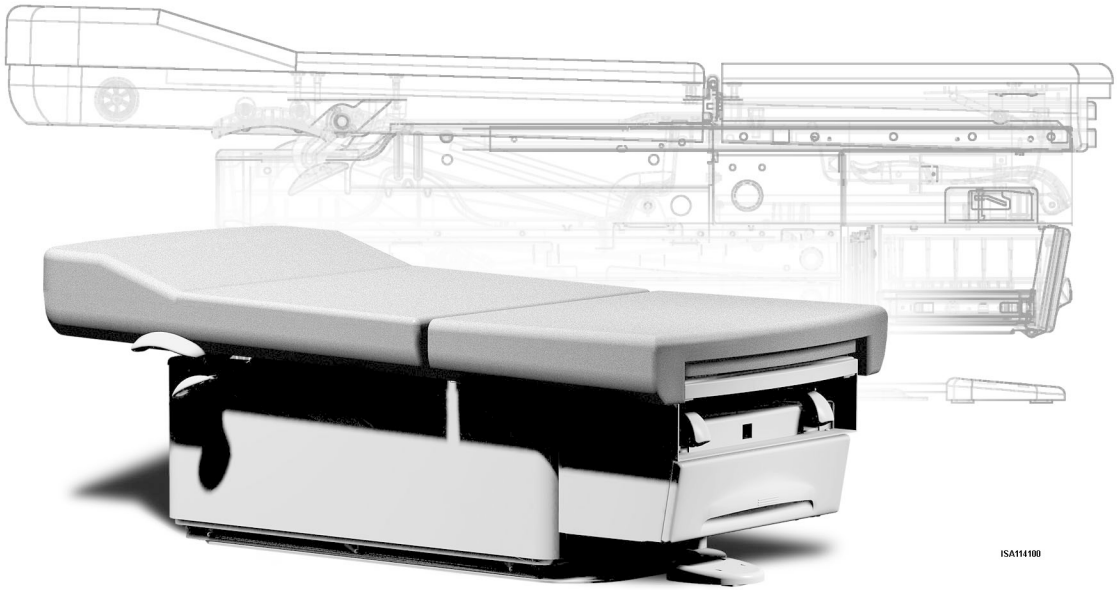
Serial Number Prefixes:

RG, RH, RJ, RK, RL, RM

SC, SD, SE, SF, SG, SH

SJ, SK

SL, SM



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Part No. 004-0363-00 Rev. B (10/03)

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General Information

Symbols

Caution
Indicates a potentially hazardous situation which could result in injury if not avoided.

Equipment Alert
Indicates a potentially hazardous situation which could result in equipment damage if not avoided.

Note
Amplifies a procedure, practice, or condition.

Indicates that the component the check mark appears beside should be tested before replacing it.
In Section A, test the components in the order indicated.
(ex. ***1st*** ✓ then, ***2nd*** ✓)

Refer to Section B for component testing procedures.

These symbols are used throughout this manual to represent the operational status of table functions and components.

Indicates the function / component is working properly. No action required.

Indicates the function / component is working, but a problem exists.

Indicates the function / component is not working at all.

Ordering Parts

The following information is required when ordering parts:

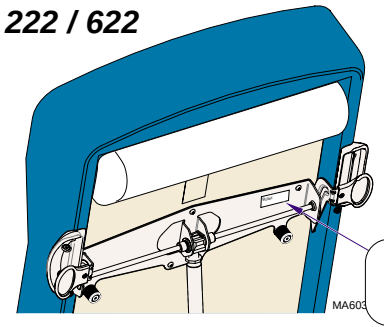
- Serial number & model number
- Part number for desired part.
  [Refer to Exploded Views / Parts Lists section]

<u>Non-warranty</u> parts orders may be faxed to Midmark using the Fax Order Form in the back of this manual.

For warranty parts orders, call Midmark's Technical Service Department with the required information.
Hours: 8:00 am until 5:00 pm EST [Monday - Friday]
Phone: 1-(800)-Midmark

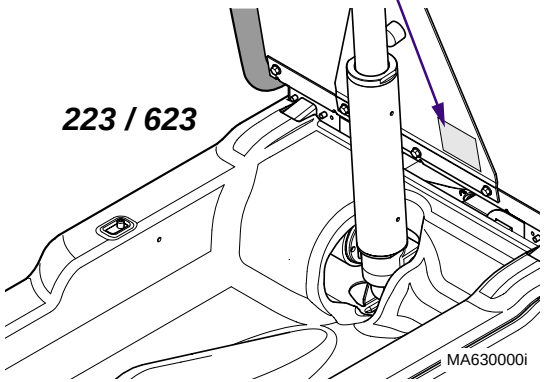
Serial Number Location

222 / 622



Serial / Model Number Location

223 / 623



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General Information

Specifications

Patient Weight (Maximum) ..... 400 lbs (181.4 kgs)

Paper Roll (maximum size): ..... 21 in. long x 3.5 in. diameter (53.3 x 8.9 cm)

Range of Motion & Dimensions ..... *See illustration*

Weight of Table:

[230 VAC models only: 230 V transformer adds 14.5 lbs (6.5 kg)]

- **222** ..... 325 lbs (147.4 kg)
  - w/packaging & skid ..... 375 lbs (192.7 kg)
- **223** ..... 325 lbs (147.4 kg)
  - w/packaging & skid ..... 375 lbs (192.7 kg)
- **622 w/upholstery** ..... 325 lbs (147.4 kg)
  - w/packaging & skid *(no upholstery)* ..... 375 lbs (192.7 kg)
- **623 w/upholstery** ..... 345 lbs (156.5 kg)
  - w/packaging & skid *(no upholstery)* ..... 360 lbs (163.3 kg)
- **Upholstery (622 / 623)**
  - w/packaging *(shipped separately)* ..... 40 lbs (18.1 kg)

Power Cord: ..... 8 ft. (243.8 cm) long

Electrical Rating: ..... *See Compliance Charts*

Foot Control Voltage: ..... 14 VAC, SELV (Safety Extra Low Voltage)

Duplex Receptacle (optional) maximum load: ..... 115 VAC, 5A

Fuses: ..... Go to ***Section E:*** *Fuses*

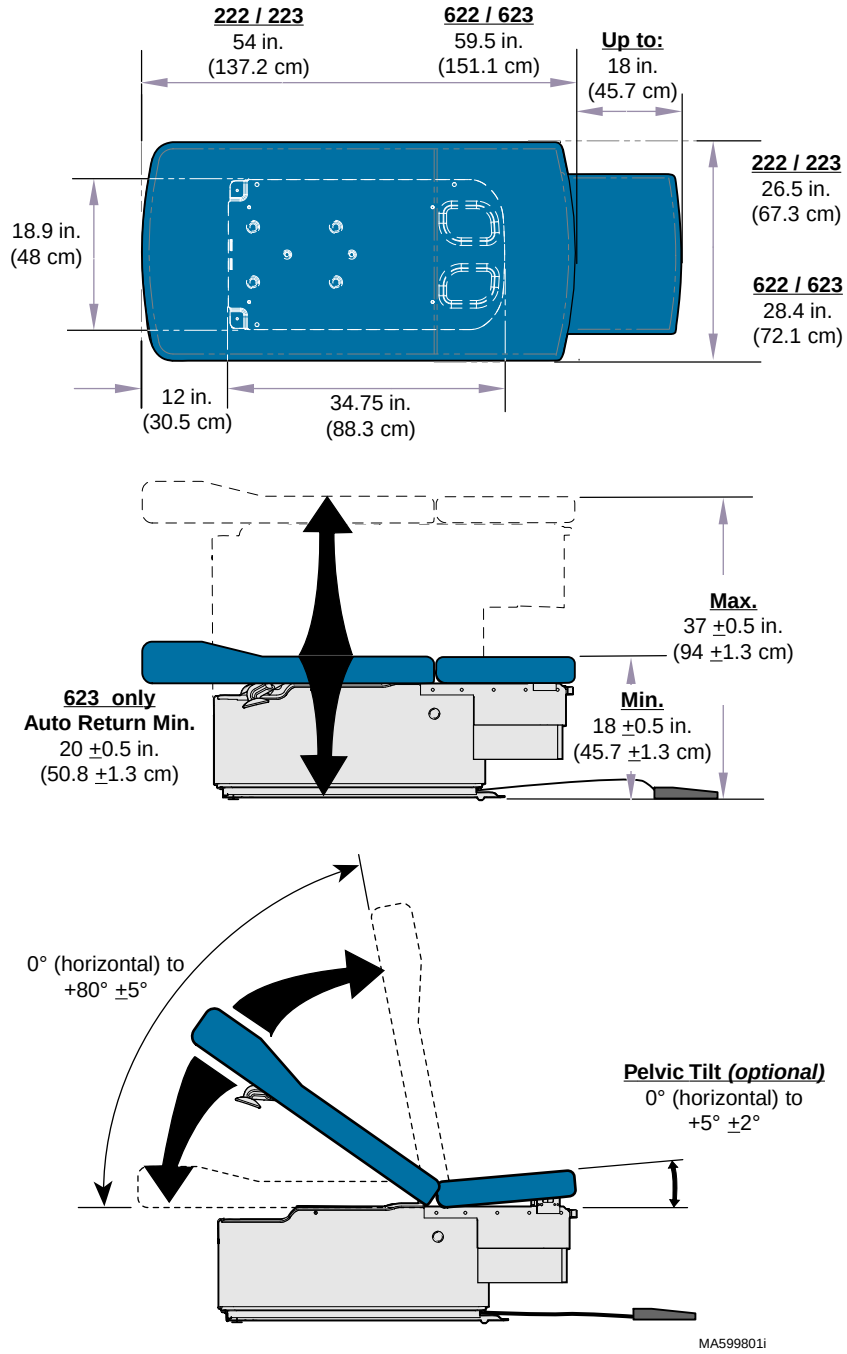
Duty Cycle *(motor run time)*: ..... Intermittent Operation (30 seconds ON / 5 minutes off)

Classifications: ..... Class 1, Type B Applied Part, Ordinary Equipment, Intermittent Operation

Protection against ingress of fluids: IPX1

Regulatory Compliance: ..... *See* ***Regulatory Compliance Charts***

Equipment not suitable for use in the presence of a flammable anestheticmixture with air, or with oxygen, or nitrous oxide.



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General Information

Model Identification / Compliance Chart - 222

Model	Description	Serial Number Prefix	Complies To:							Electrical Ratings:		
			UL 2601	CAN/CSA 22.2, #601.1-M90	UL 544	CAN/CSA 22.2, #125	EN 60601-1-2 (EMC)	EN 60601-1	CE	VAC +/- 10%	Amps	Cycles (Hz)
222-001	**Ritter BasicTable** (Standard Top)	**RG**	X	X			X	X	X	115	5.5	50/60
222-002	**Ritter BasicTable** w/ Receptacle (Standard Top)	**RH**			X	X	X		X	115	10.5	50/60
222-003	**Ritter BasicTable** w/ Drawer Heater, Pelvic Tilt (Standard Top)	**RJ**	X	X			X	X	X	115	6	50/60
222-004	**Ritter BasicTable** w/ Receptacle, Pelvic Tilt Drawer Heater, (Standard Top)	**RK**			X	X	X		X	115	11	50/60
222-005	**Ritter BasicTable** (Seamless Top)	**RG**	X	X			X	X	X	115	5.5	50/60
222-006	**Ritter BasicTable** w/ Receptacle, (Seamless Top)	**RH**			X	X	X		X	115	10.5	50/60
222-007	**Ritter BasicTable** w/ Drawer Heater, Pelvic Tilt (Seamless Top)	**RJ**	X	X			X	X	X	115	6	50/60
222-008	**Ritter BasicTable** w/ Receptacle, Pelvic Tilt Drawer Heater, (Seamless Top)	**RK**			X	X	X		X	115	11	50/60
222-009	**Ritter Basic Export Table** w/Pelvic Tilt (Standard Top)	**RL**					X	X	X	230	2.75	50/60
222-010	**Ritter BasicExport Table** w/ Pelvic Tilt, Drawer Heater (Standard Top)	**RM**					X	X	X	230	3	50/60

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General Information

Model Identification / Compliance Chart - 223

Model	Description	Serial Number Prefix	Complies To:							Electrical Ratings:		
			UL 2601	CAN/CSA 22.2, #601.1-M90	UL 544	CAN/CSA 22.2, #125	EN 60601-1-2 (EMC)	EN 60601-1	CE	VAC +/- 10%	Amps	Cycles (Hz)
223-001	**Ritter Power Back Table** (Standard Top)	**SC**	X	X			X	X	X	115	7	50/60
223-002	**Ritter Power BackTable** w/ Receptacle (Standard Top)	**SD**			X	X	X		X	115	12	50/60
223-003	**Ritter Power BackTable** w/ Drawer Heater, Pelvic Tilt (Standard Top)	**SE**	X	X			X	X	X	115	7.5	50/60
223-004	**Ritter Power BackTable** w/ Receptacle, Pelvic Tilt Drawer Heater, (Standard Top)	**SF**			X	X	X		X	115	12.5	50/60
223-005	**Ritter Power Back Table** (Seamless Top)	**SC**	X	X			X	X	X	115	7	50/60
223-006	**Ritter Power BackTable** w/ Receptacle (Seamless Top)	**SD**			X	X	X		X	115	12	50/60
223-007	**Ritter Power BackTable** w/ Drawer Heater, Pelvic Tilt (Seamless Top)	**SE**	X	X			X	X	X	115	7.5	50/60
223-008	**Ritter Power BackTable** w/ Receptacle, Pelvic Tilt Drawer Heater, (Seamless Top)	**SF**			X	X	X		X	115	12.5	50/60
223-009	**Ritter Power Back Export Table** w/ Pelvic Tilt (Standard Top)	**SG**					X	X	X	230	3.75	50/60
223-010	**Ritter Power Back Export Table** w/ Pelvic Tilt, Drawer Heater (Standard Top)	**SH**					X	X	X	230	4	50/60

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General Information

Model Identification / Compliance Chart - 622 / 623

Model	Description	Serial Number Prefix	Complies To:							Electrical Ratings:		
			UL 2601	CAN/CSA 22.2, #601.1-M90	UL 544	CAN/CSA 22.2, #125	EN 60601-1-2 (EMC)	EN 60601-1	CE	VAC +/- 10%	Amps	Cycles (Hz)
622-001	**Midmark Manual Back Table** w/ Receptacle (Premium Top)	SJ			X	X	X		X	115	10.5	50/60
622-002	**Midmark Manual Back Table** w/ Receptacle, Drawer Heater, Pelvic Tilt, & Heated Top (Ultra Premium Top)	SK			X	X	X		X	115	11.5	50/60
623-001	**Midmark Power Back Table** w/ Receptacle (Premium Top)	SL			X	X	X		X	115	12.5	50/60
623-002	**Midmark Power Back Table** w/ Receptacle, Drawer Heater, Pelvic Tilt, & Heated Top (Ultra Premium Top)	SM			X	X	X		X	115	13.5	50/60

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General Information

Warranty Information

SCOPE OF WARRANTY
Midmark Corporation (“Midmark”) warrants to the original purchaser its new Alternate Care products and components (except for components not warranted under “Exclusions”) manufactured by Midmark to be free from defects in material and workmanship under normal use and service. Midmark’s obligation under this warranty is limited to the repair or replacement, at Midmark’s option, of the parts or the products the defects of which are reported to Midmark within the applicable warranty period and which, upon examination by Midmark, prove to be defective.

APPLICABLE WARRANTY PERIOD
The applicable warranty period, measured from the date of delivery to the original user, shall be one (1) year for all warranted products and components.

EXCLUSIONS
This warranty does not cover and Midmark shall not be liable for the following: (1) repairs and replacements because of misuse, abuse, negligence, alteration, accident, freight damage, or tampering; (2) products which are not installed, used, and properly cleaned as required in the Midmark “Installation” and or “Installation / Operation Manual for this applicable product. (3) products considered to be of a consumable nature; (4) accessories or parts not manufactured by Midmark; (5) charges by anyone for adjustments, repairs, replacement parts, installation, or other work performed upon or in connection with such products which is not expressly authorized in writing in advance by Midmark.

EXCLUSIVE REMEDY
Midmark’s only obligation under this warranty is the repair or replacement of defective parts. Midmark shall not be liable for any direct, special, indirect, incidental, exemplary, or consequential damages or delay, including, but not limited to, damages for loss of profits or loss of use.

NO AUTHORIZATION
No person or firm is authorized to create for Midmark any other obligation or liability in connection with the products.

THIS WARRANTY IS MIDMARK’S ONLY WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. MIDMARK MAKES NO IMPLIED WARRANTIES OF ANY KIND INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACE MENT OF DEFECTIVE PARTS.

SF-1487 REV. A1

Additional Information
Failure to follow the guidelines listed below will void the warranty and/or render the table unsafe for use.

- If a malfunction is detected, do not use the table until necessary repairs are made.
- Do not attempt to disassemble table, replace components, or perform adjustments unless you are a Midmark authorized service technician.
- Do not use another manufacturer's parts to replace malfunctioning components. Use only Midmark replacement parts

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Section A

Operation & Troubleshooting

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Back Up / Down:	
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Power (223 / 623)	A-14
Drawer Heater System	A-23
Table Receptacle	A-27
Auto Return	A-29
Upholstery Heater System	A-32

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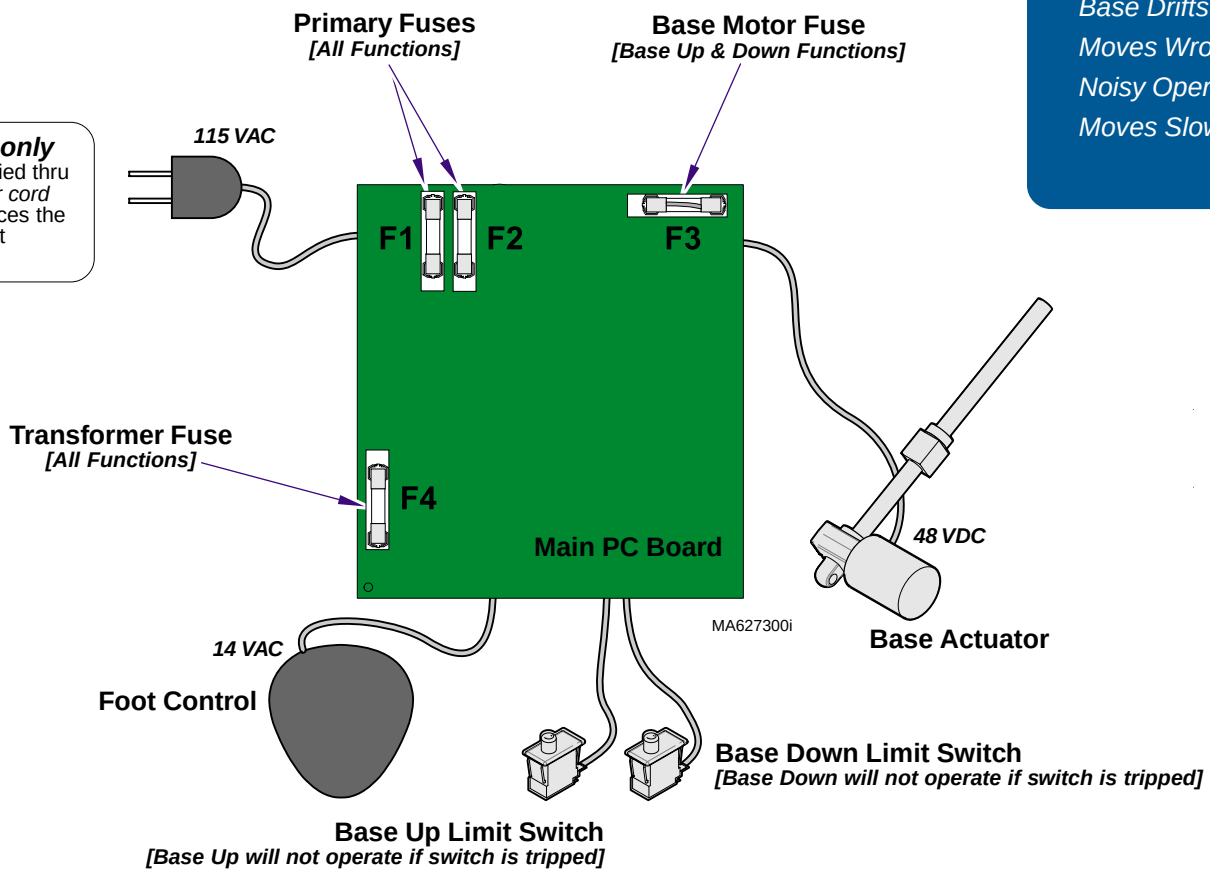
Operation & Troubleshooting

Base UP / DOWN Function

This illustration shows only the components that affect the Base UP / DOWN function.
Refer to the following page for a detailed description of current flow during this function.

NOTE: *230 VAC models only*
Line voltage (230 VAC) is supplied thru two fuses *(located by the power cord inlet)* to a transformer that reduces the line voltage to 115 VAC before it reaches the PC Board.



Troubleshooting
[Base Up / Down Function]

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No UP or DOWN Functions	A-4
No UP Function (DOWN - OK)	A-5
No DOWN Function (UP - OK)	A-6
Base Drifts Down	A-7
Moves Wrong Direction	A-8
Noisy Operation	A-9
Moves Slowly	A-10

This page applies to model numbers: ***222 / 223 / 622 / 623***

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Base UP / DOWN Function

NOTE
On 230 VAC models, line voltage *(230 VAC)* is supplied thru two fuses *(located by IEC inlet)* to a transformer that reduces the line voltage to 115 VAC before it gets to the PC board.

Power To Foot Control
115 VAC is supplied thru the two primary fuses *(F1 & F2)* to the transformer on the PC board. *[F4 fuse protects the transformer]*.

The transformer reduces the line voltage and supplies 14 VAC to the foot control.

Base Up Operation

NOTE
If the Base Up limit switch is tripped (open), the Base Up function will not operate.

When the Base Up function is activated, current *(14 VAC)* flows thru the Up function foot switch *(N.O)*, then back to the PC board. Circuitry on the PC Board energizes the base relay. *[F3 fuse protects the base motor]*.

NOTE
The Base Up/Down relay has four contacts:
(2) Normally Open: Base Up function
(2) Normally Closed: Base Down function

When the base relay is energized, the (2) Normally Open contacts of the relay close. When these contacts close, current *(48 VDC)* flows to the actuator motor.

When current flows to the actuator thru the Normally Open contacts of the relay, the actuator motor runs and raises the table.

Actuator Motor runs until:
1. Foot control pedal is released.
2. Base Up limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).
   [Primary, Base Motor, Transformer fuse]

Base Down Operation

NOTE
If the Base Down limit switch is tripped (open), the Base Down function will not operate.

When the Base Down function is activated, current *(14 VAC)* flows thru the Down function foot switch *(N.O.)*, then back to the PC Board.

NOTE
The Base Up/Down relay has four contacts:
(2) Normally Open: Base Up function
(2) Normally Closed: Base Down function

When this voltage is applied, current *(48 VDC)* flows to the actuator motor thru the (2) Normally Closed contacts of the Base Up/Down relay. *[The relay does <u>not</u> energize].*

When voltage flows to the actuator thru the Normally Closed contacts of the relay, the actuator motor runs and lowers the table.

Actuator Motor runs until:
1. Foot control pedal is released.
2. Base Down limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).
   [Primary, Base Motor, Transformer fuse]

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Operation & Troubleshooting

Function	Status	Problem
Base Up		No movement
Base Down		No movement

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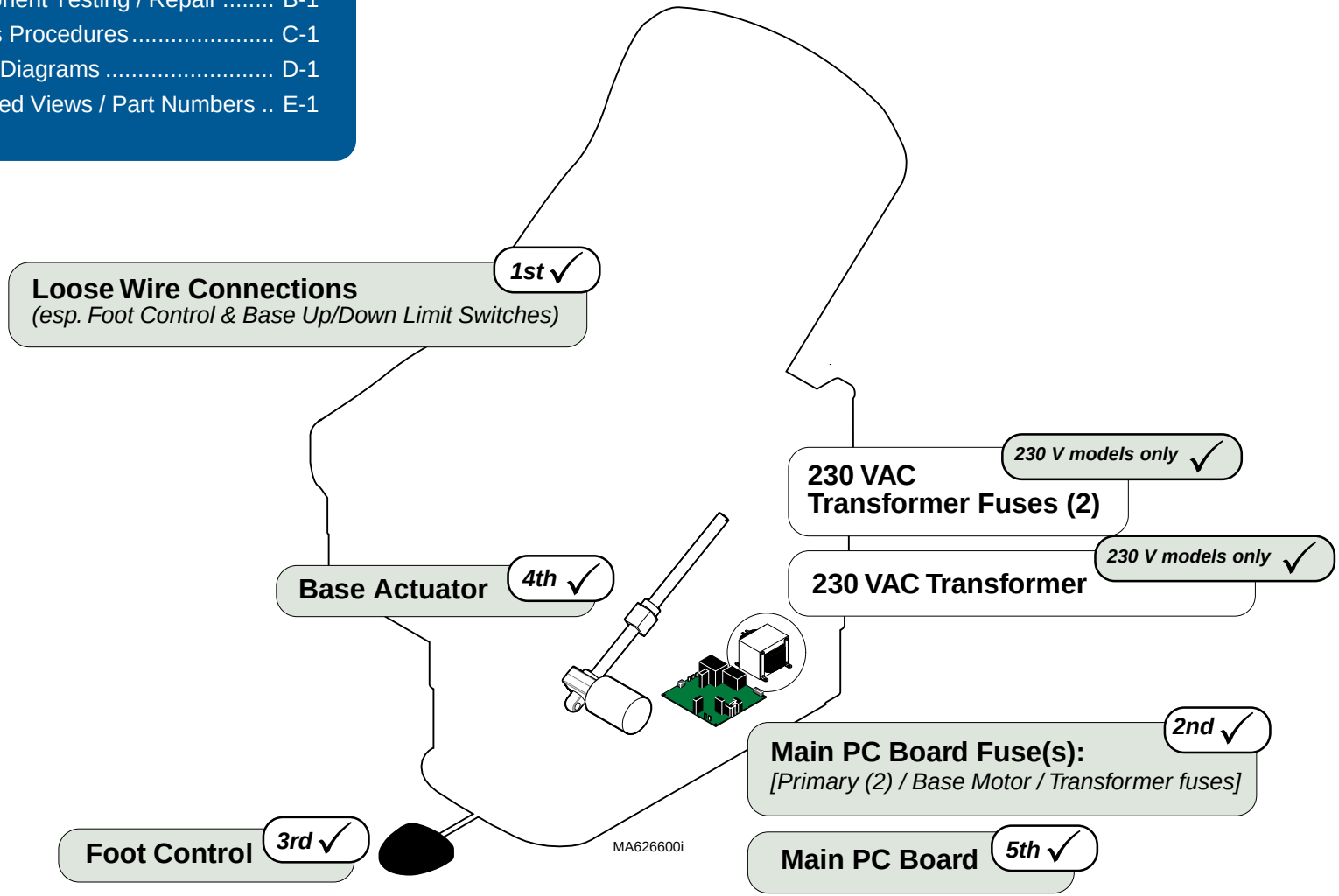
Access Procedures C-1
Wiring Diagrams D-1
Exploded Views / Part Numbers .. E-1



Base Up / Down

This page applies to model numbers: ***222 / 223 / 622 / 623***

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Operation & Troubleshooting

Function	Status	Problem
Base Up		No movement
Base Down		OK

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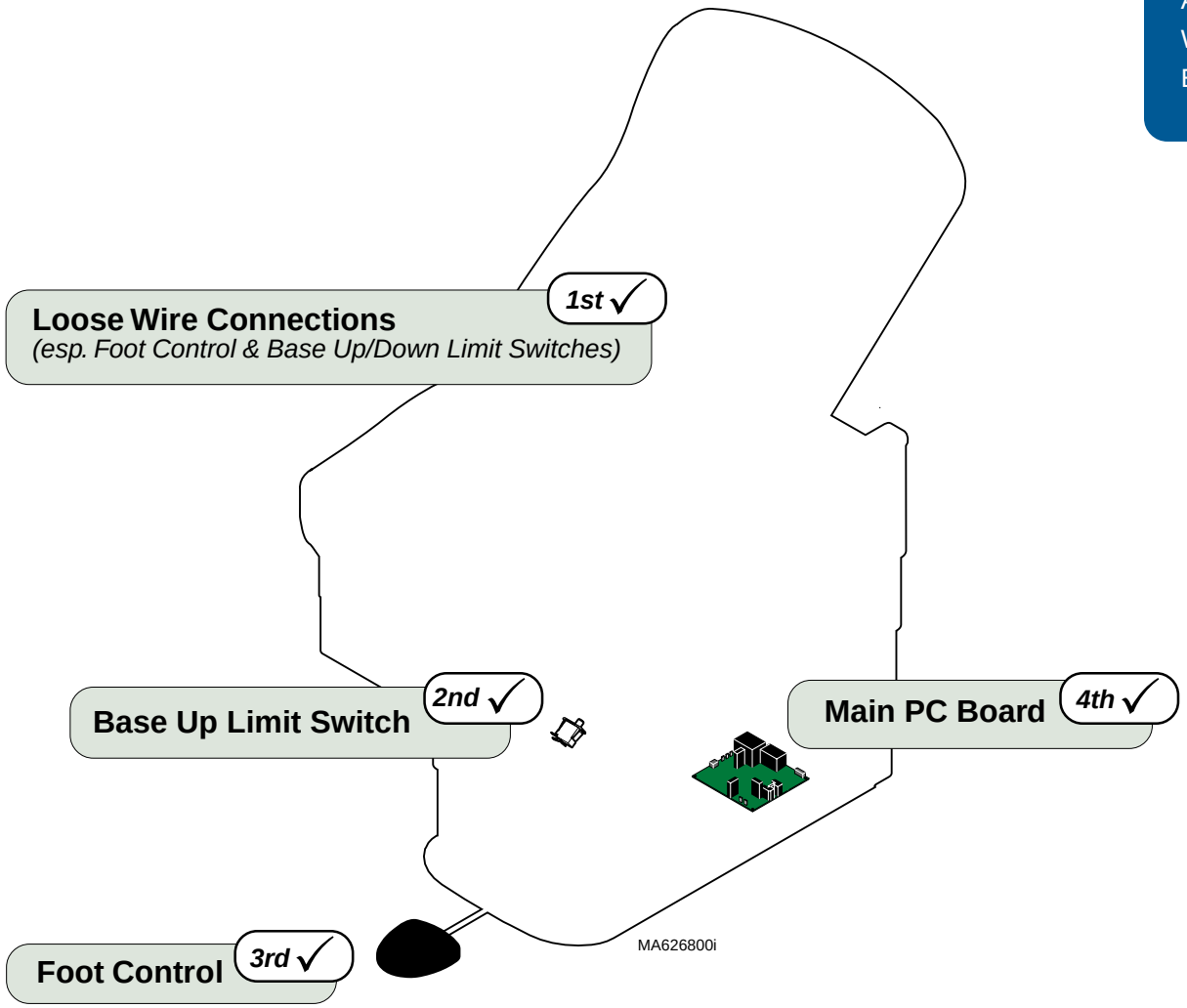

This page applies to model numbers: ***222 / 223 / 622 / 623***

Base Up / Down

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Operation & Troubleshooting

Function	Status	Problem
Base Up		OK
Base Down		No movement

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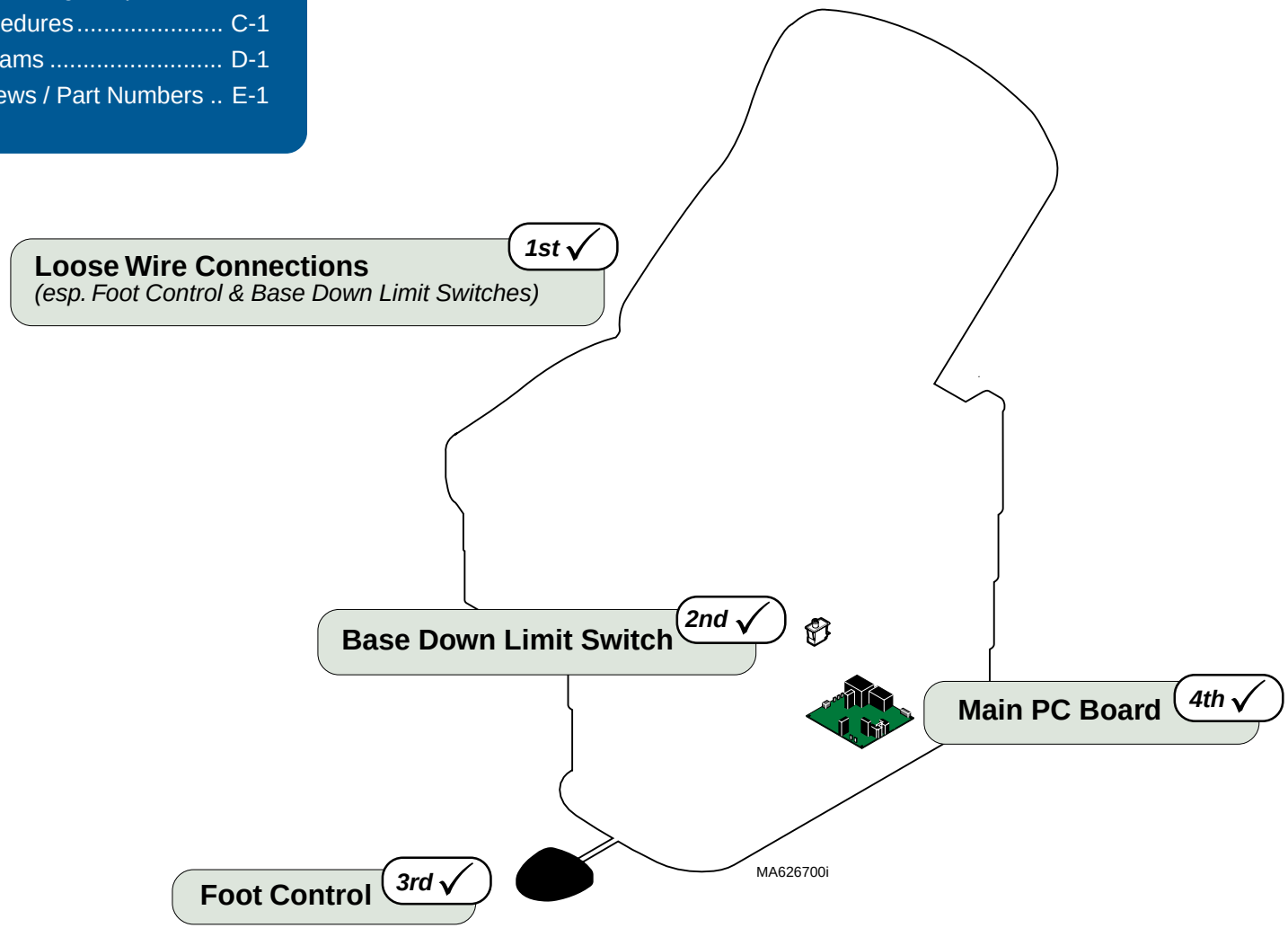

Base Up / Down

This page applies to model numbers: ***222 / 223 / 622 / 623***

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Operation & Troubleshooting

Function	Status	Problem
Base Up		Table drifts down.
Base Down		Table drifts down.

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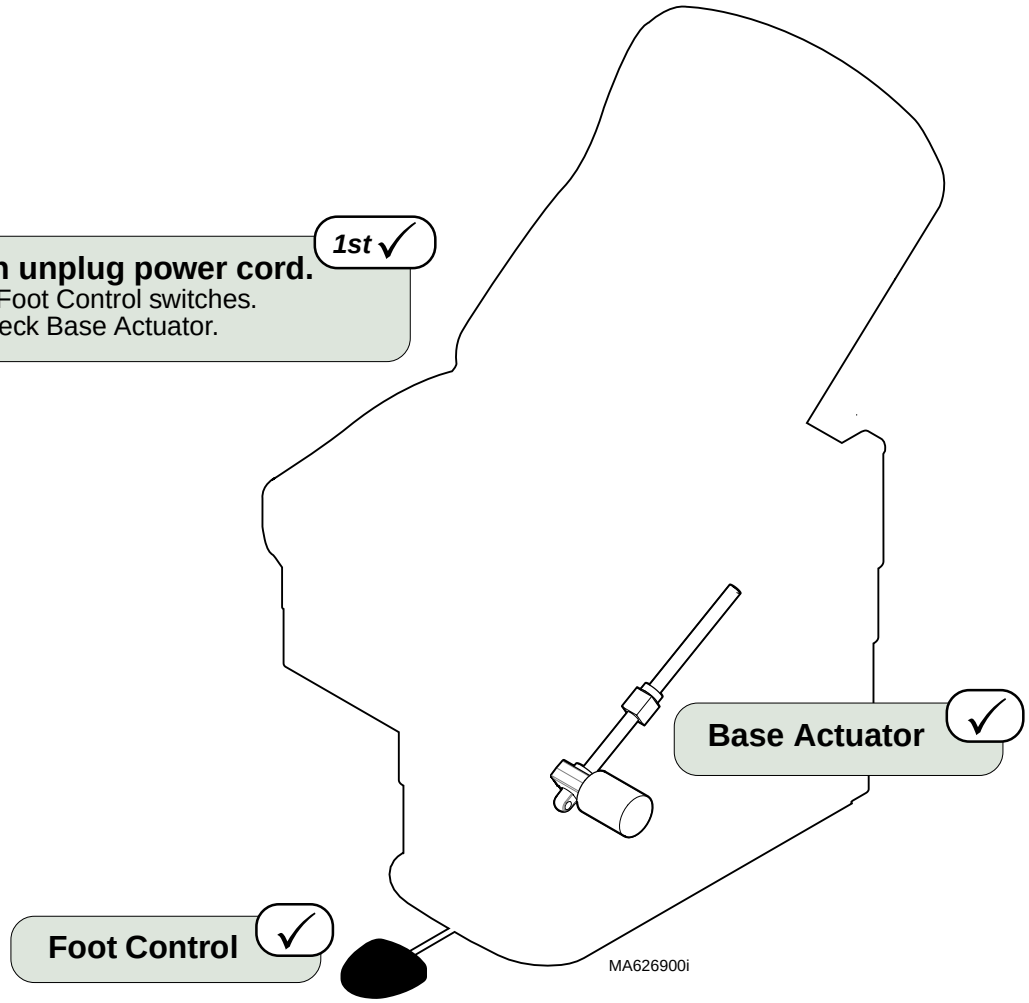
Run table up, then unplug power cord. *1st* ✓
If drifting stops, check Foot Control switches.
If drifting continues, check Base Actuator.



This page applies to model numbers: ***222 / 223 / 622 / 623***

Base Up / Down

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Operation & Troubleshooting

Function	Status	Problem
Base Up		Press Base UP pedal, table moves DOWN.
Base Down		Press Base DOWN pedal, table moves UP.

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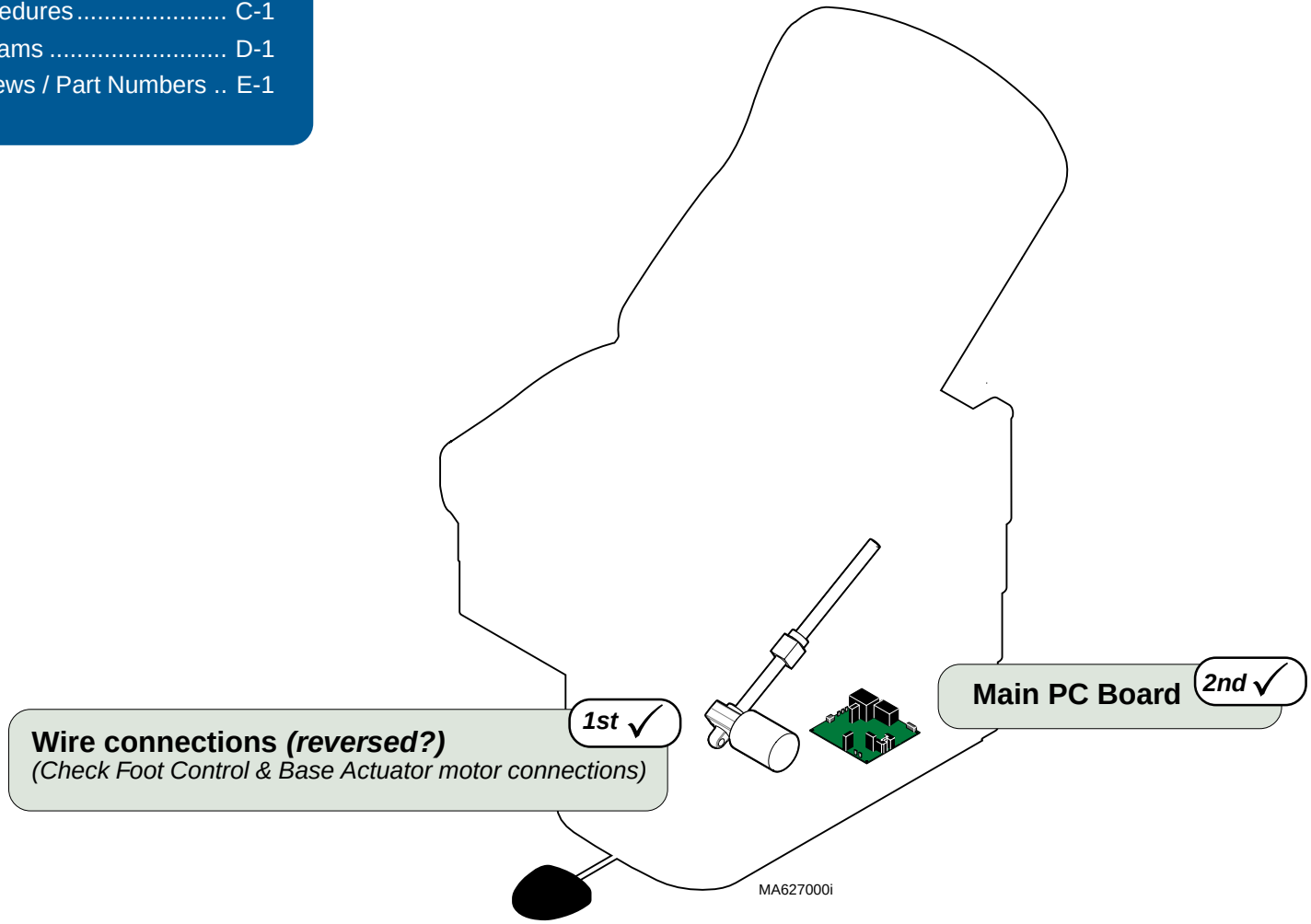

Base Up / Down

This page applies to model numbers: ***222 / 223 / 622 / 623***

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Operation & Troubleshooting

Function	Status	Problem
Base Up		Noisy / grinding / squeaking
Base Down		Noisy / grinding / squeaking

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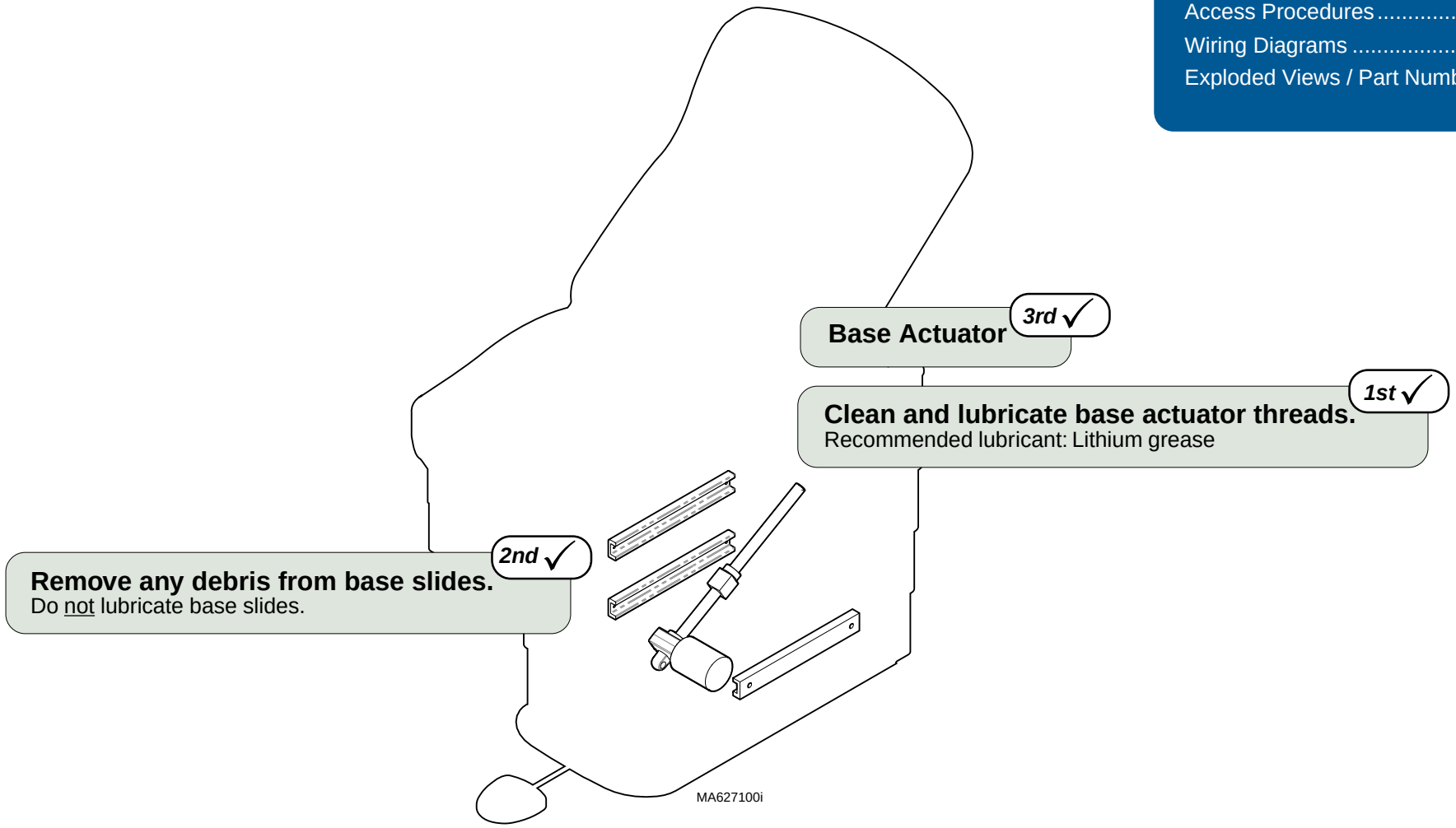

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Base Up / Down

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Operation & Troubleshooting

Function	Status	Problem
Base Up		Moves slowly
Base Down		Moves slowly

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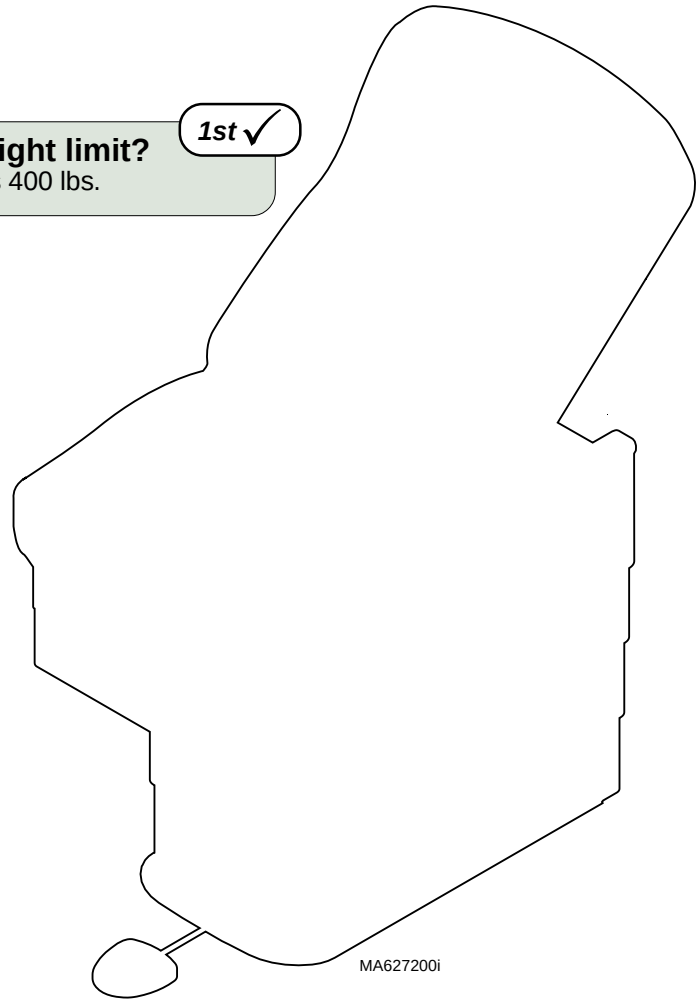
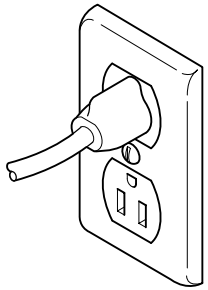
1st ✓

Did patient exceed 400 lb. weight limit?
Inform staff that max. patient weight is 400 lbs.



2nd ✓

Low voltage to table
Required voltage:
115 VAC models ..... 115 ±10% VAC
230 VAC models ..... 230 ±10% VAC



Base Up / Down

This page applies to model numbers: ***222 / 223 / 622 / 623***

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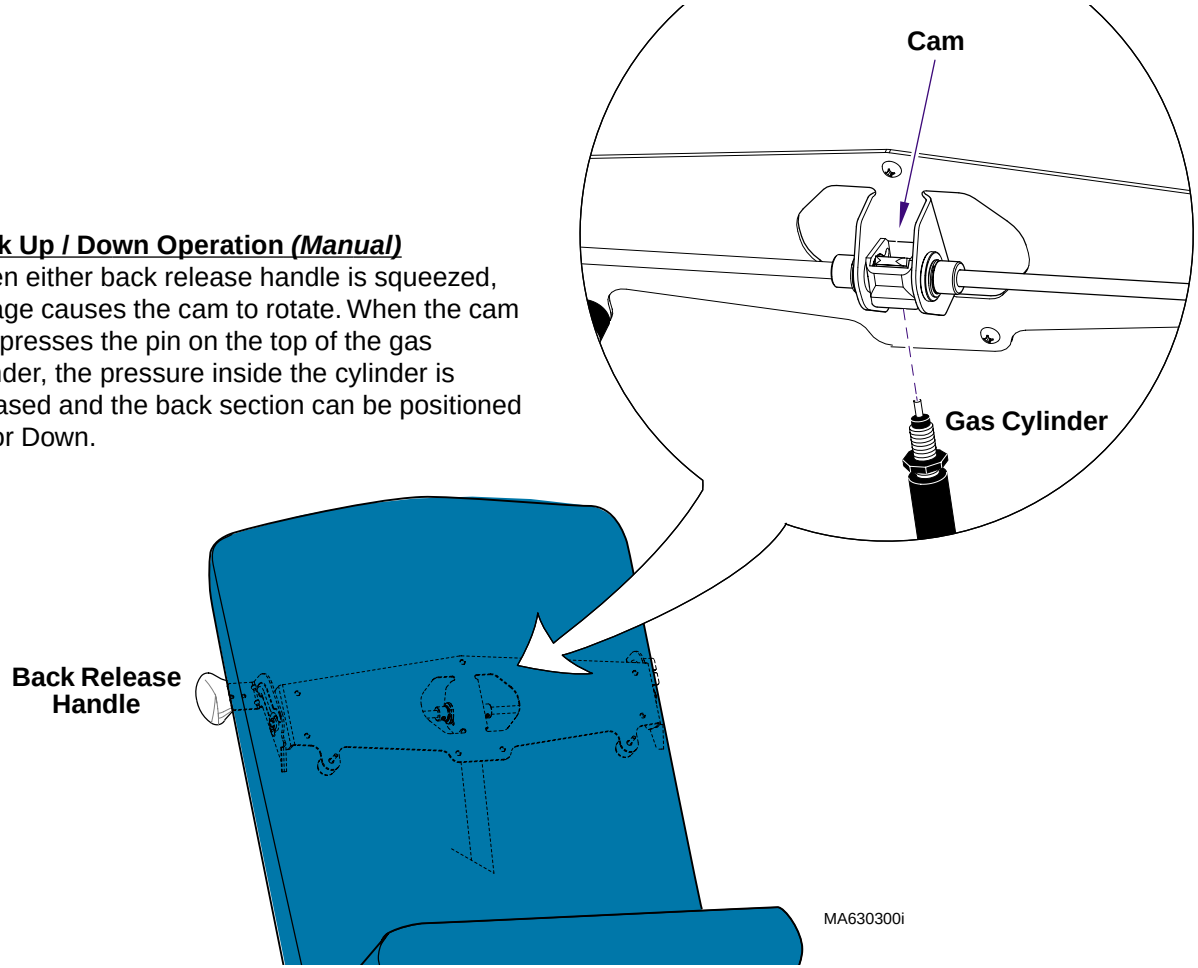
Back UP / DOWN Function (Manual)

This illustration shows only the components that affect the Back UP / DOWN function.

Troubleshooting
[Back Up / Down Function (Manual)]

Problem	Page
Back Drifts Up or Down	A-12
No Movement	A-13
Difficult To Position	A-13

Back Up / Down Operation *(Manual)*
When either back release handle is squeezed, linkage causes the cam to rotate. When the cam compresses the pin on the top of the gas cylinder, the pressure inside the cylinder is released and the back section can be positioned Up or Down.



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Operation & Troubleshooting

Function	Status	Problem
Back Up/Down		Back section drifts

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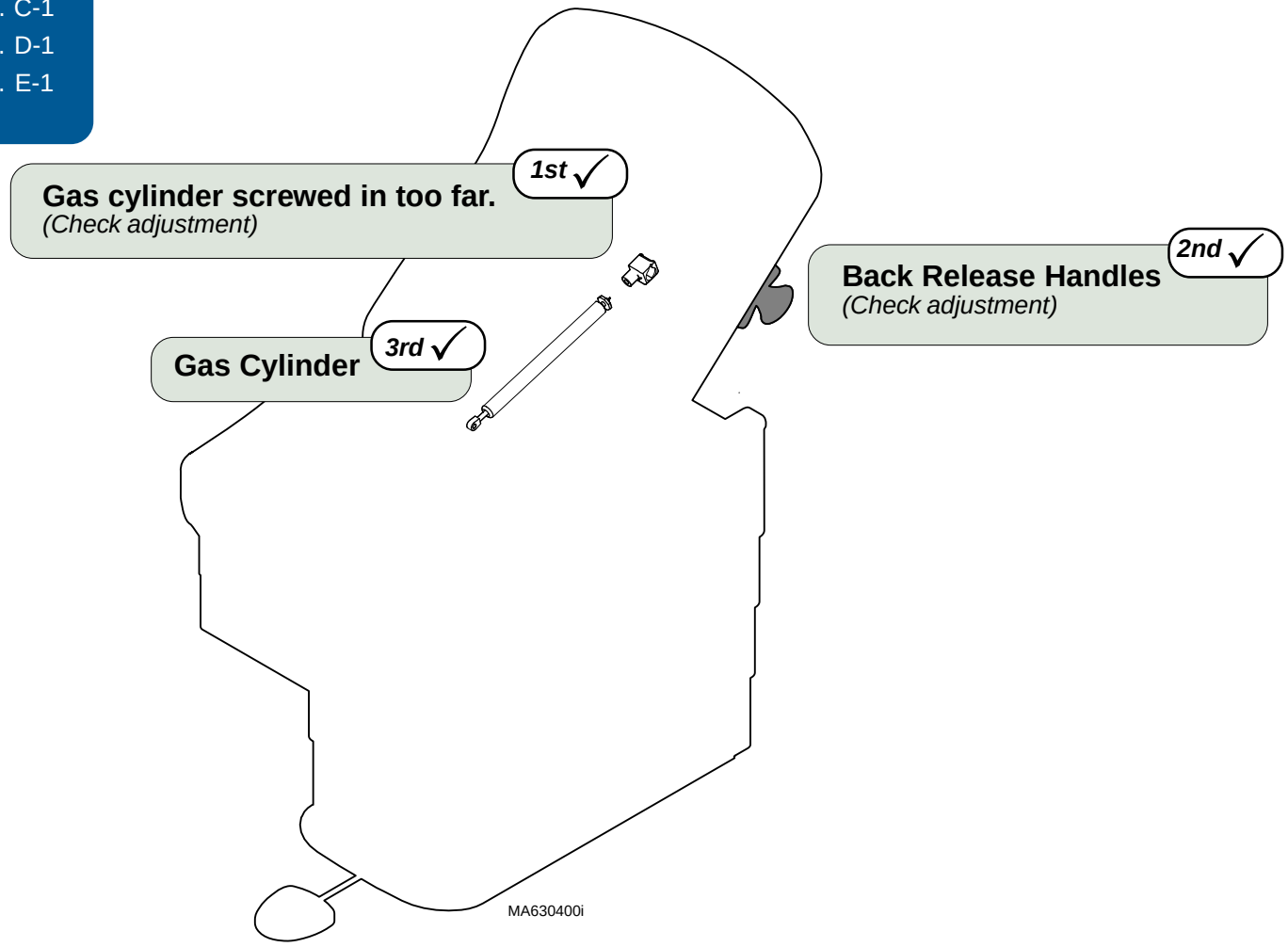

This page applies to model numbers: ***222 / 622***

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Operation & Troubleshooting

Function	Status	Problem
Back Up/Down		No movement
		Difficult to position

Refer To: **Page**

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Component Testing / Repair B-1

Access Procedures C-1

Wiring Diagrams D-1

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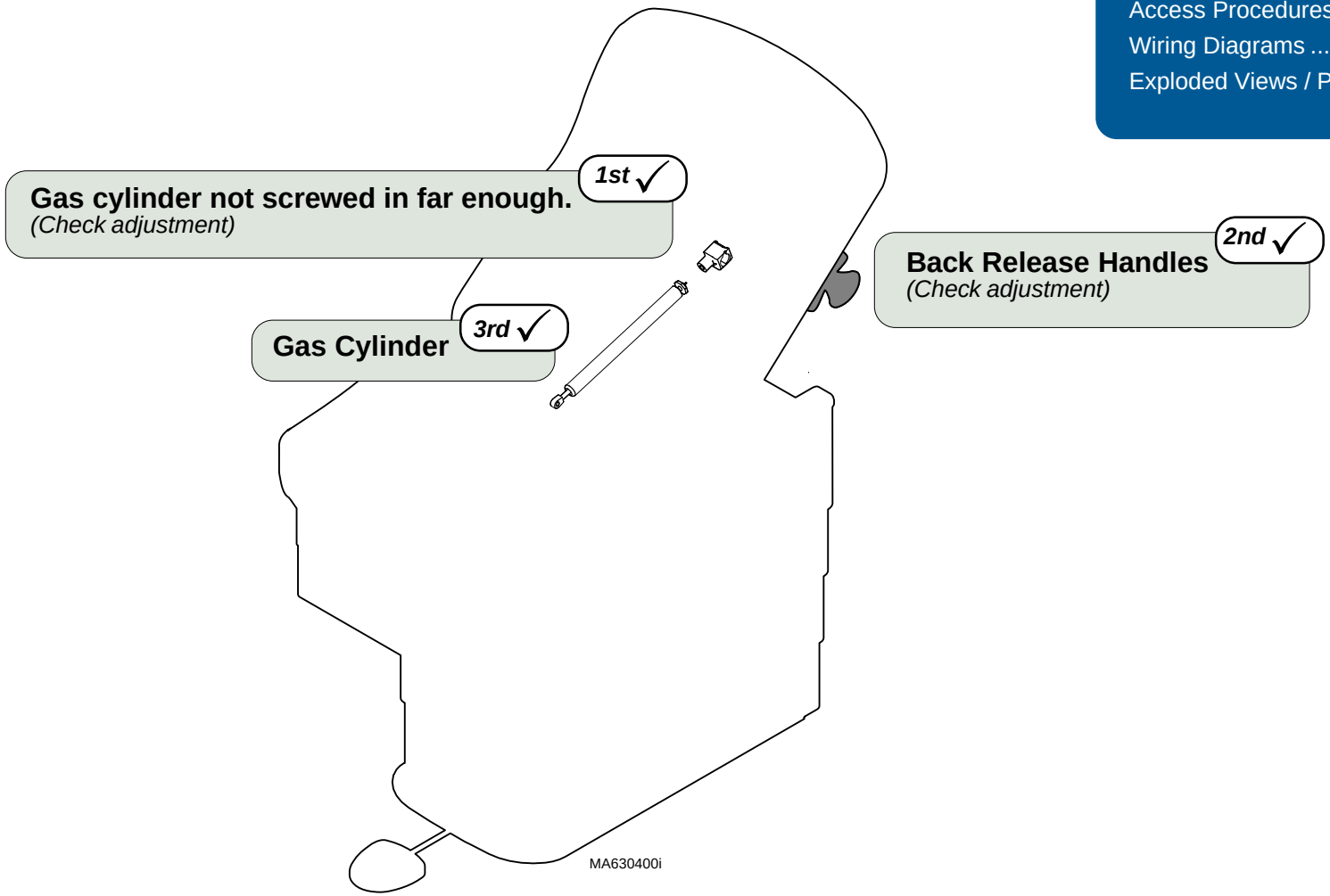

This page applies to model numbers: ***222 / 622***

Back Up / Down
Manual

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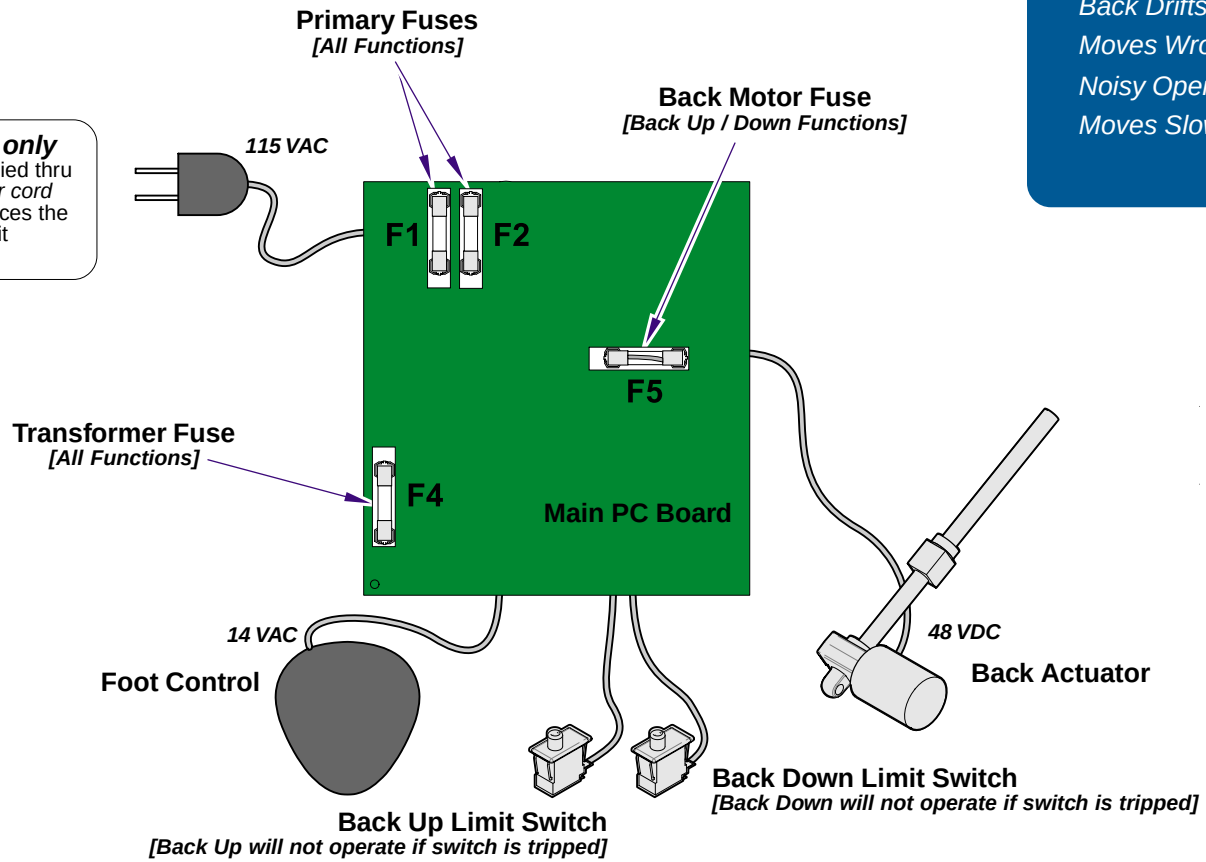
Operation & Troubleshooting

Back UP / DOWN Function (Power)

This illustration shows only the components that affect the Back UP / DOWN function.
Refer to the following page for a detailed description of current flow during this function.

NOTE: *230 VAC models only*
Line voltage (230 VAC) is supplied thru two fuses *(located by the power cord inlet)* to a transformer that reduces the line voltage to 115 VAC before it reaches the PC Board.



Troubleshooting
[Back Up / Down Function (Power)]

Problem	Page
No UP or DOWN Functions	A-16
No DOWN Function (UP - OK)	A-17
No UP Function (DOWN - OK)	A-18
Back Drifts Down	A-19
Moves Wrong Direction	A-20
Noisy Operation	A-21
Moves Slowly	A-22

This page applies to model numbers: ***223 / 623***

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Back UP / DOWN Function (Power)

NOTE
On 230 VAC models, line voltage *(230 VAC)* is supplied thru two fuses *(located by IEC inlet)* to a transformer that reduces the line voltage to 115 VAC before it gets to the PC board.

Power To Foot Control
115 VAC is supplied thru the two primary fuses *(F1 & F2)* to the transformer on the PC board. *[F4 fuse protects the transformer]*.

The transformer reduces the line voltage and supplies 14 VAC to the foot control.

Back Up Operation

NOTE
If the Back Up limit switch is tripped (open), the Back Up function will not operate.

When the Back Up function is activated, current *(14 VAC)* flows thru the Up function foot switch *(N.O)*, then back to the PC board. Circuitry on the PC Board energizes the back relay. *[F5 fuse protects the back motor]*.

NOTE
The Back Up/Down relay has four contacts:
(2) Normally Open: Back Up function
(2) Normally Closed: Back Down function

When the back relay is energized, the (2) Normally Open contacts of the relay close. When these contacts close, current (*48 VDC)* flows to the actuator motor.

When current flows to the actuator thru the Normally Open contacts of the relay, the actuator motor runs and raises the back section.

Actuator Motor runs until:
1. Foot control pedal is released.
2. Back Up limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).
   [Primary, Back Motor, Transformer fuse]

Back Down Operation

NOTE
If the Back Down limit switch is tripped (open), the Back Down function will not operate.

When the Back Down function is activated, current *(14 VAC)* flows thru the Down function foot switch *(N.O.)*, then back to the PC Board.

NOTE
The Back Up/Down relay has four contacts:
(2) Normally Open: Back Up function
(2) Normally Closed: Back Down function

When this voltage is applied, current *(48 VDC)* flows to the actuator motor thru the (2) Normally Closed contacts of the Back Up/Down relay. *[The relay does not energize].*

When voltage flows to the actuator thru the Normally Closed contacts of the relay, the actuator motor runs and lowers the back section.

Actuator Motor runs until:
1. Foot control pedal is released.
2. Back Down limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).
   [Primary, Back Motor, Transformer fuse]

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Operation & Troubleshooting

Function	Status	Problem
Back Up		No movement
Back Down		No movement

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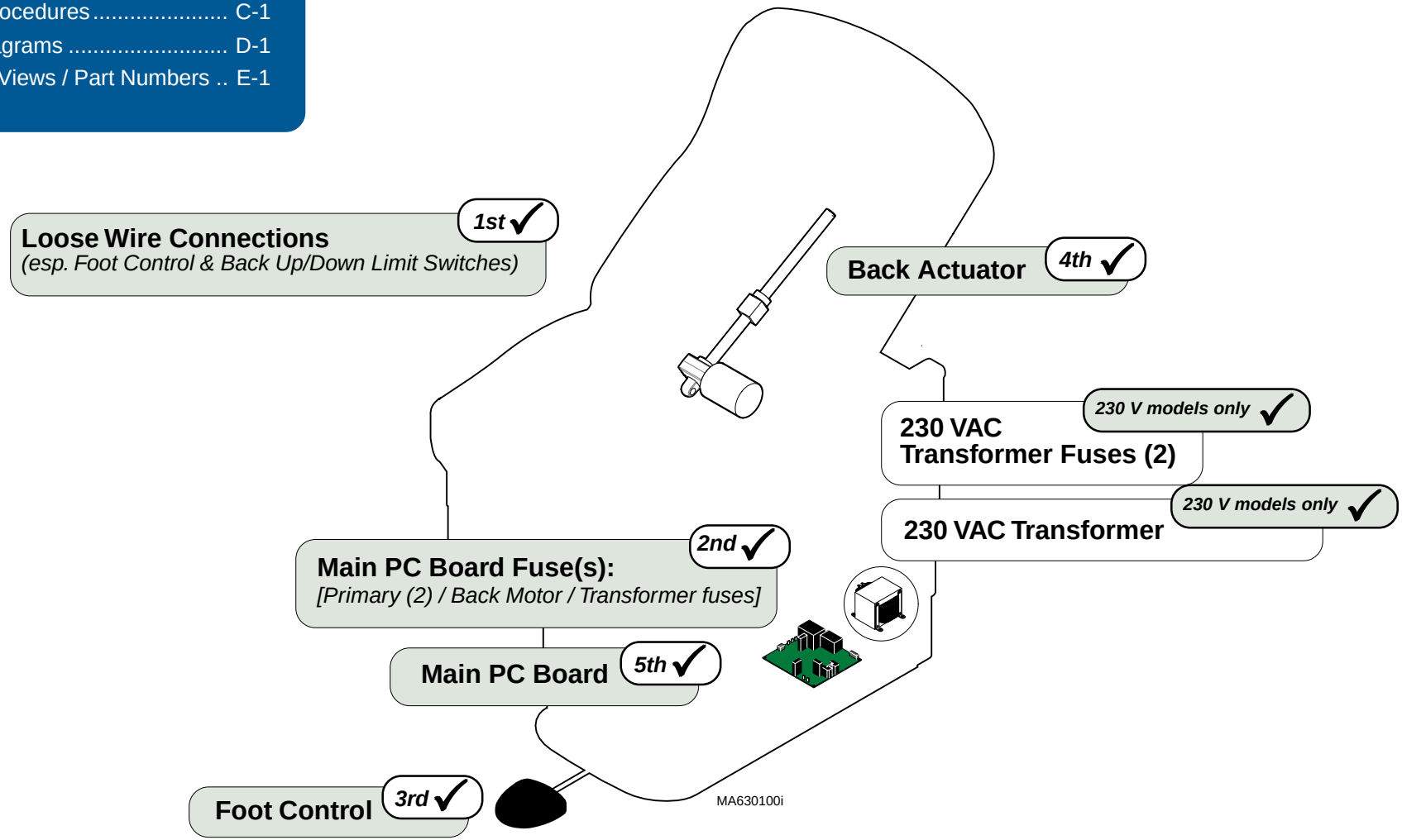
Access Procedures C-1
Wiring Diagrams D-1
Exploded Views / Part Numbers .. E-1



Back Up / Down
Power

This page applies to model numbers: ***223 / 623***

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Operation & Troubleshooting

Function	Status	Problem
Back Up		OK
Back Down		No movement

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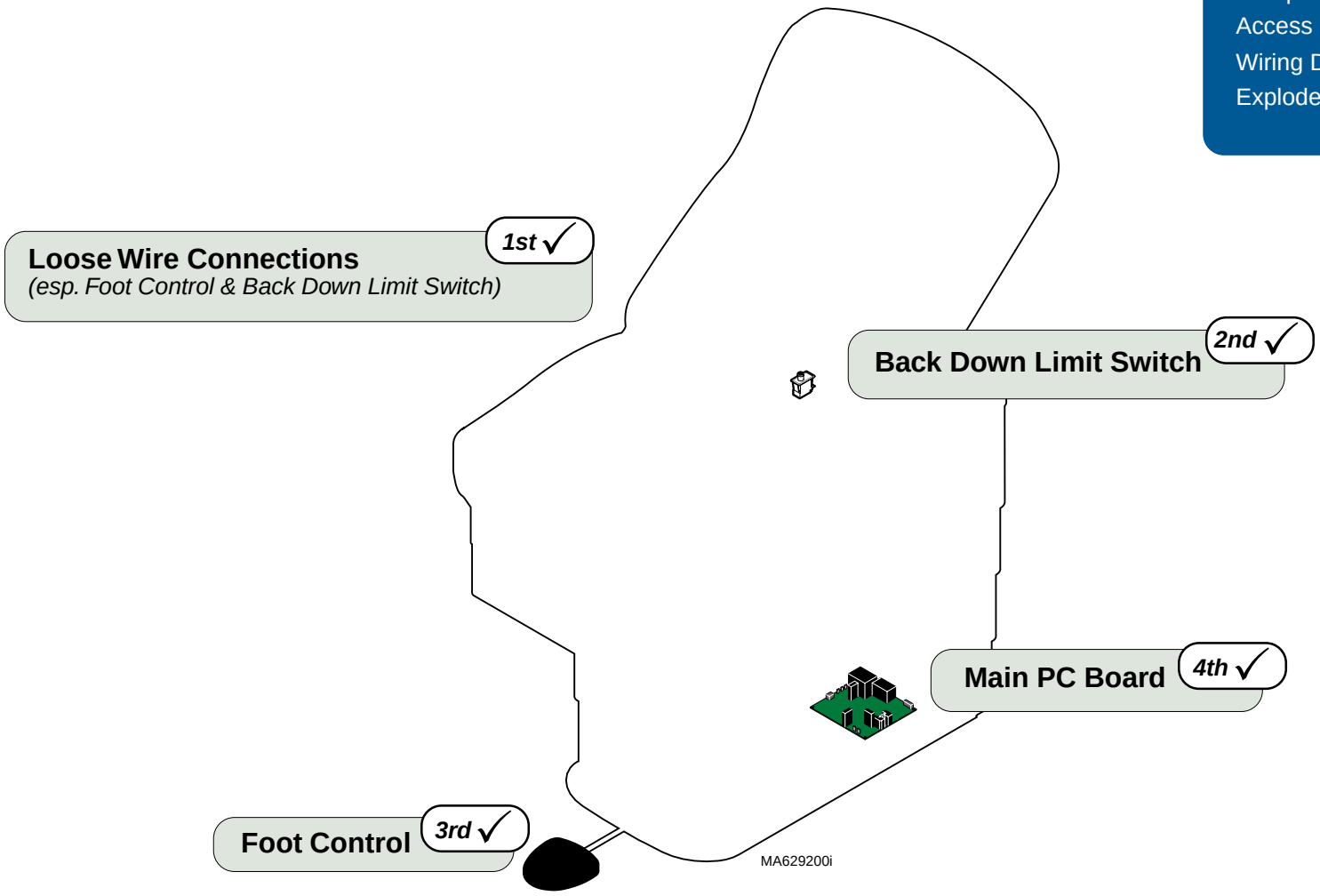

This page applies to model numbers: ***223 / 623***

Back Up / Down
Power

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Operation & Troubleshooting

Function	*Status*	*Problem*
Back Up		No movement
Back Down		OK

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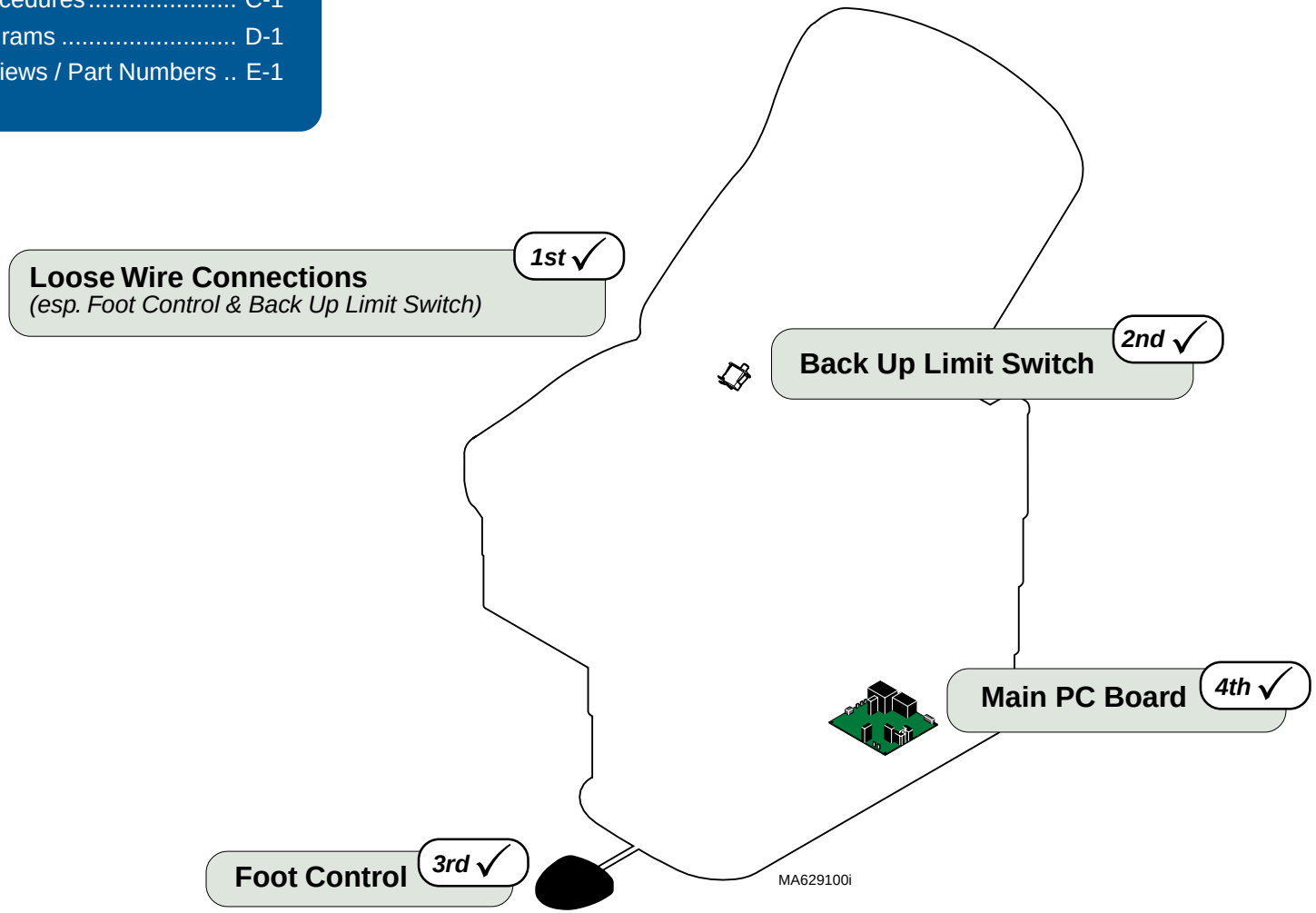

Back Up / Down
Power

This page applies to model numbers: ***223 / 623***

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Operation & Troubleshooting

Function	Status	Problem
Back Up		Back drifts down.
Back Down		Back drifts down.

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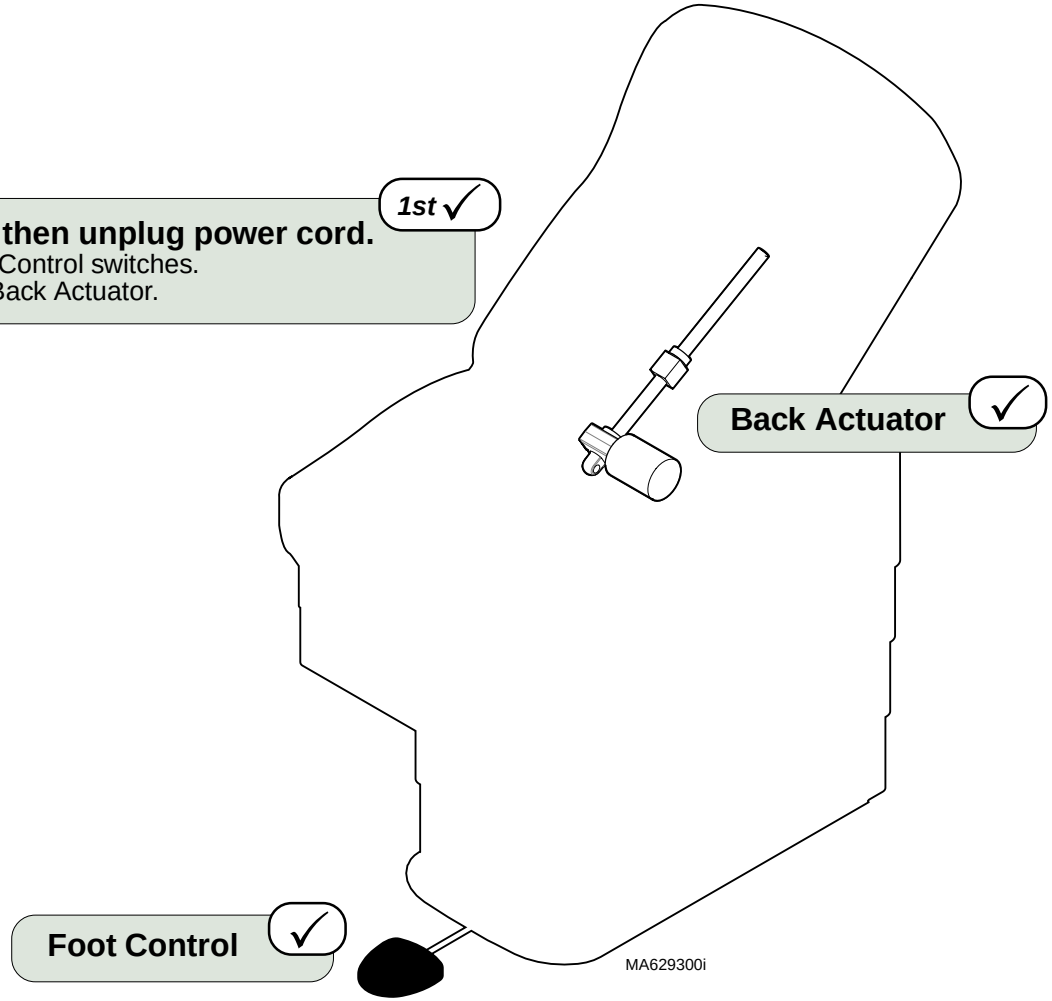
Run back section up, then unplug power cord. *1st* ✓
If drifting stops, check Foot Control switches.
If drifting continues, check Back Actuator.



This page applies to model numbers: ***223 / 623***

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Operation & Troubleshooting

Function	Status	Problem
Back Up		Press Back UP pedal, back section moves DOWN.
Back Down		Press Back DOWN pedal, back section moves UP.

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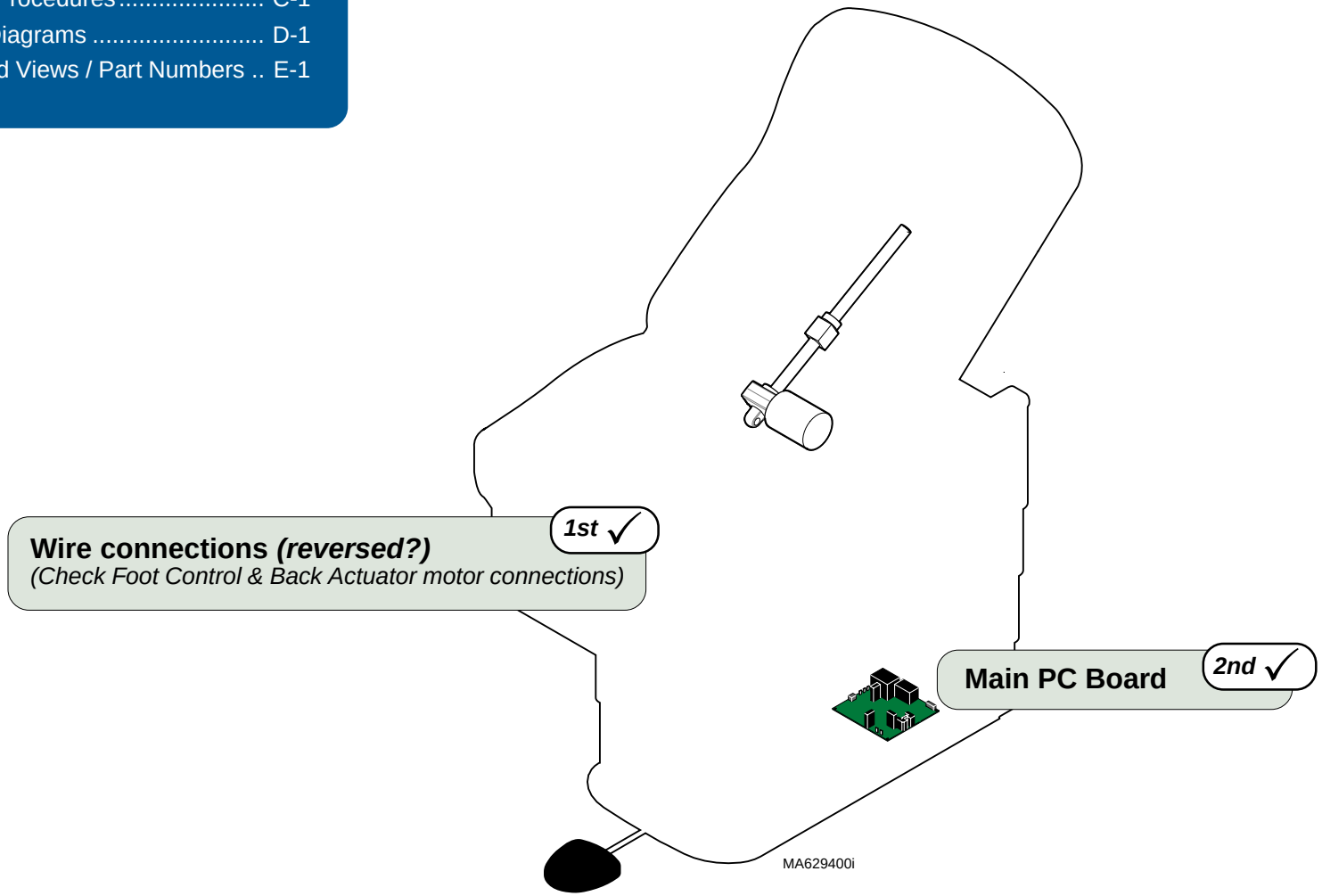

This page applies to model numbers: ***223 / 623***

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Operation & Troubleshooting

Function	Status	Problem
Back Up		Noisy / grinding / squeaking
Back Down		Noisy / grinding / squeaking

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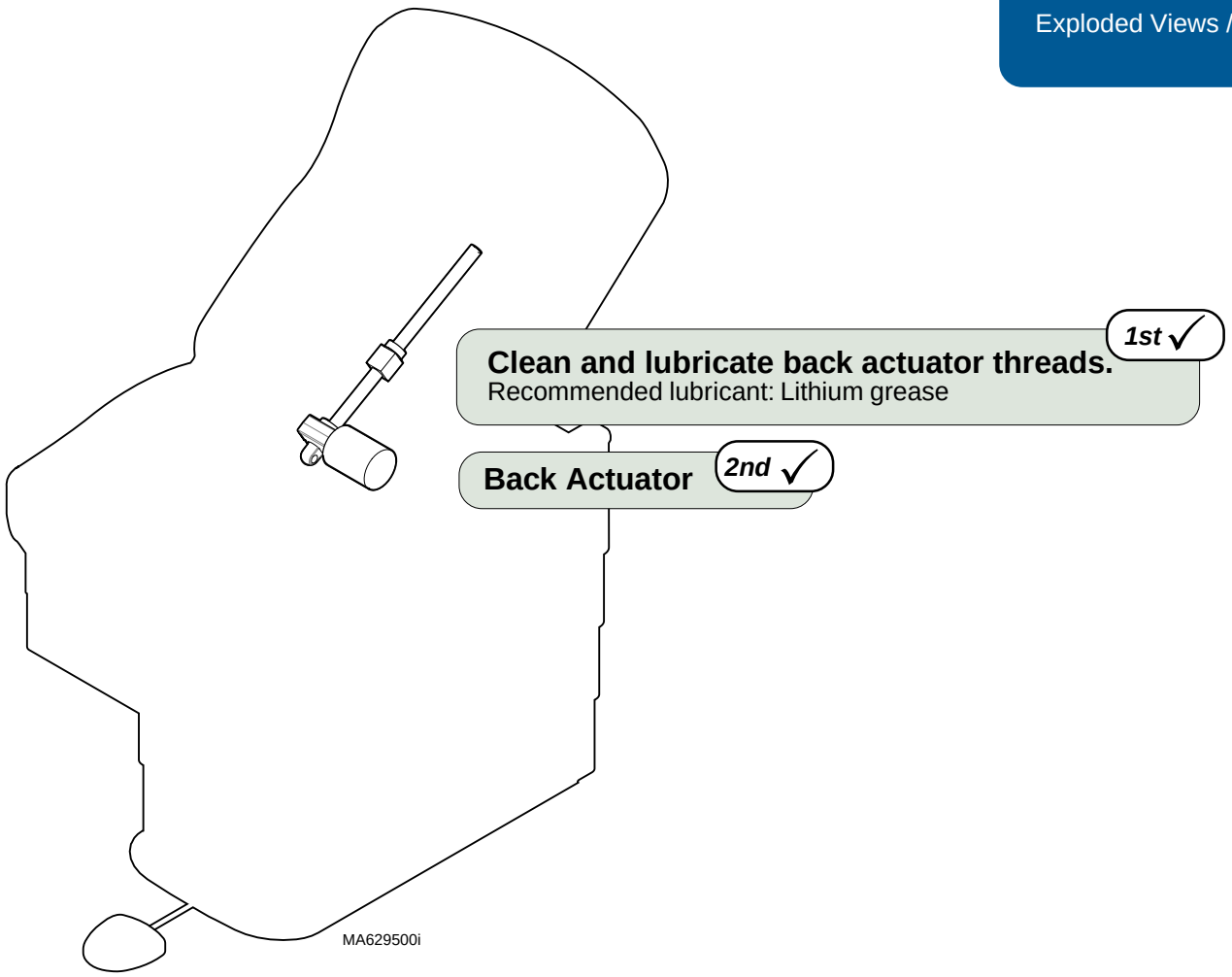

This page applies to model numbers: ***223 / 623***

Back Up / Down
Power

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Operation & Troubleshooting

Function	Status	Problem
Back Up		Moves slowly
Back Down		Moves slowly

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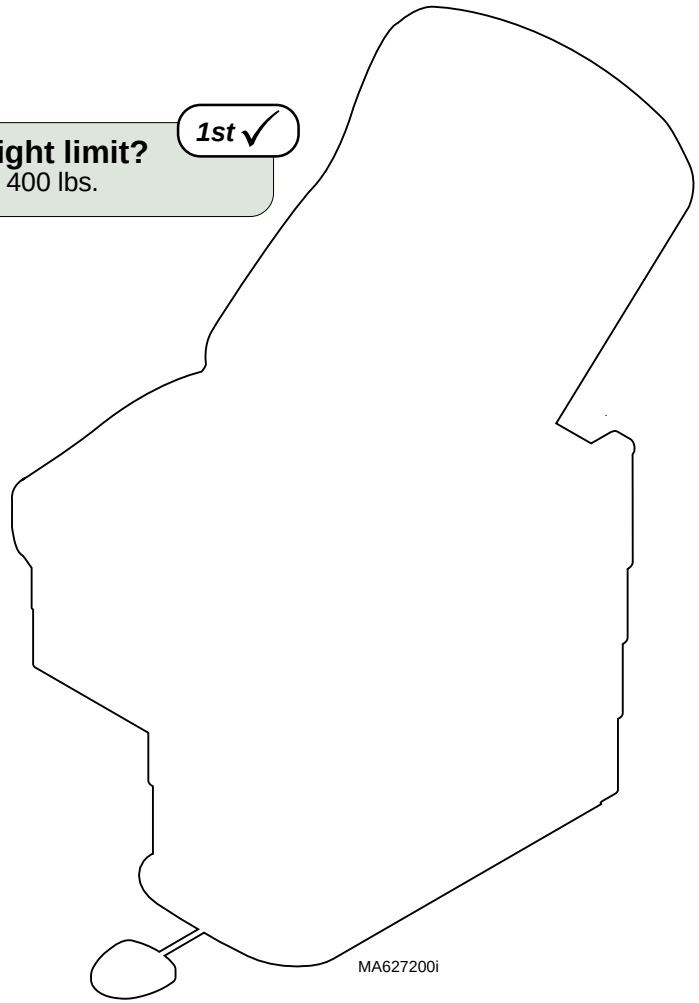
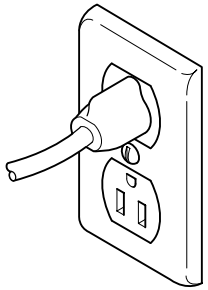
1st ✓

Did patient exceed 400 lb. weight limit?
Inform staff that max. patient weight is 400 lbs.



2nd ✓

Low voltage to table
Required voltage:
115 VAC models ..... 115 ±10% VAC
230 VAC models ..... 230 ±10% VAC



Back Up / Down
Power

This page applies to model numbers: ***223 / 623***

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Operation & Troubleshooting

Drawer Heater System (optional)

This illustration shows only the components that affect the drawer heater system.
A detailed description of current flow during this function also appears below.

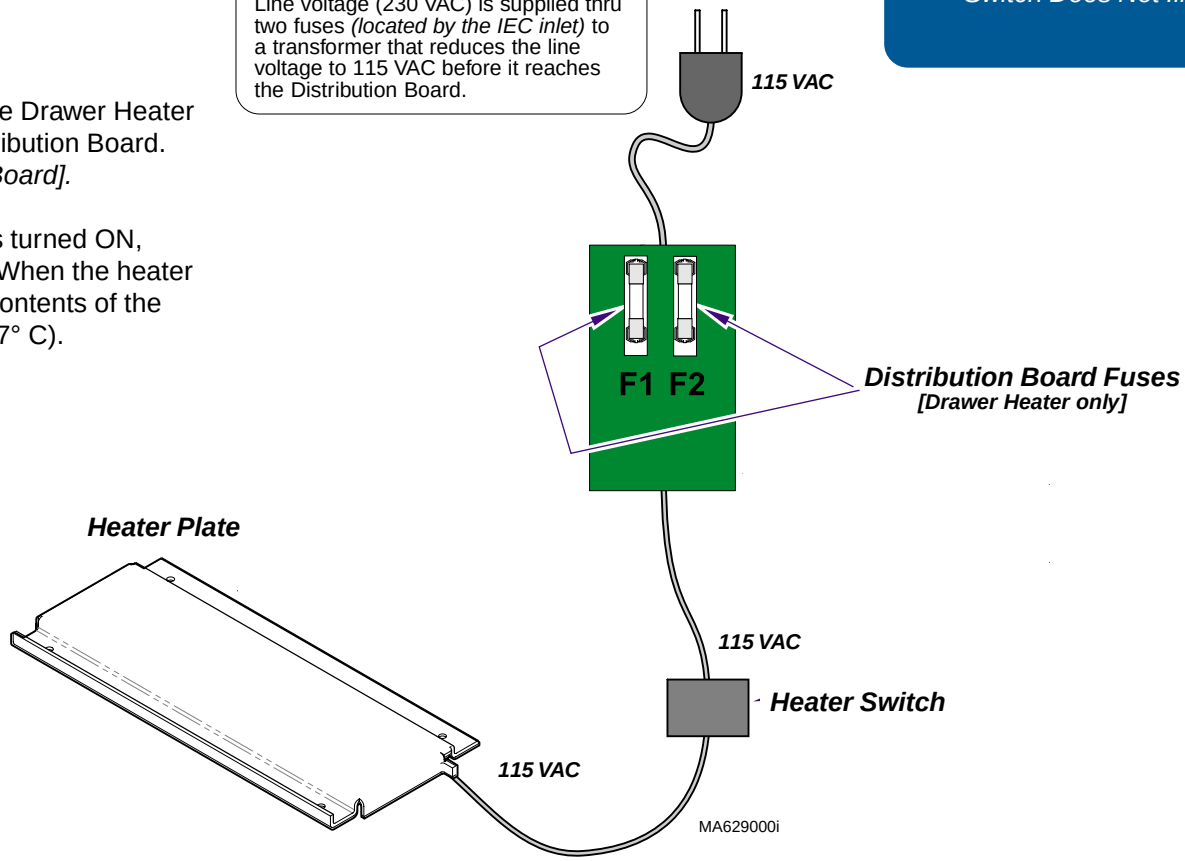
Troubleshooting
[Drawer Heater System]

Problem	Page
Drawer Heater Does Not Warm Up:	
Switch Does Not Illuminate	A-24
Switch Illuminates	A-25
Drawer Heater Works Properly:	
Switch Does Not Illuminate	A-26

NOTE: *230 VAC models only*
Line voltage (230 VAC) is supplied thru two fuses *(located by the IEC inlet)* to a transformer that reduces the line voltage to 115 VAC before it reaches the Distribution Board.

Drawer Heater Operation
115 VAC is supplied directly to the Drawer Heater switch thru two fuses on the Distribution Board. *[Voltage bypasses the Main PC Board].*

When the drawer heater switch is turned ON, current flows to the heater plate. When the heater plate is energized, it warms the contents of the drawer to approximately 98° F (37° C).



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Drawer Heater System

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Operation & Troubleshooting

Function	Status	Problem
Drawer Heater		Does not heat up.
Heater Switch		Does not illuminate

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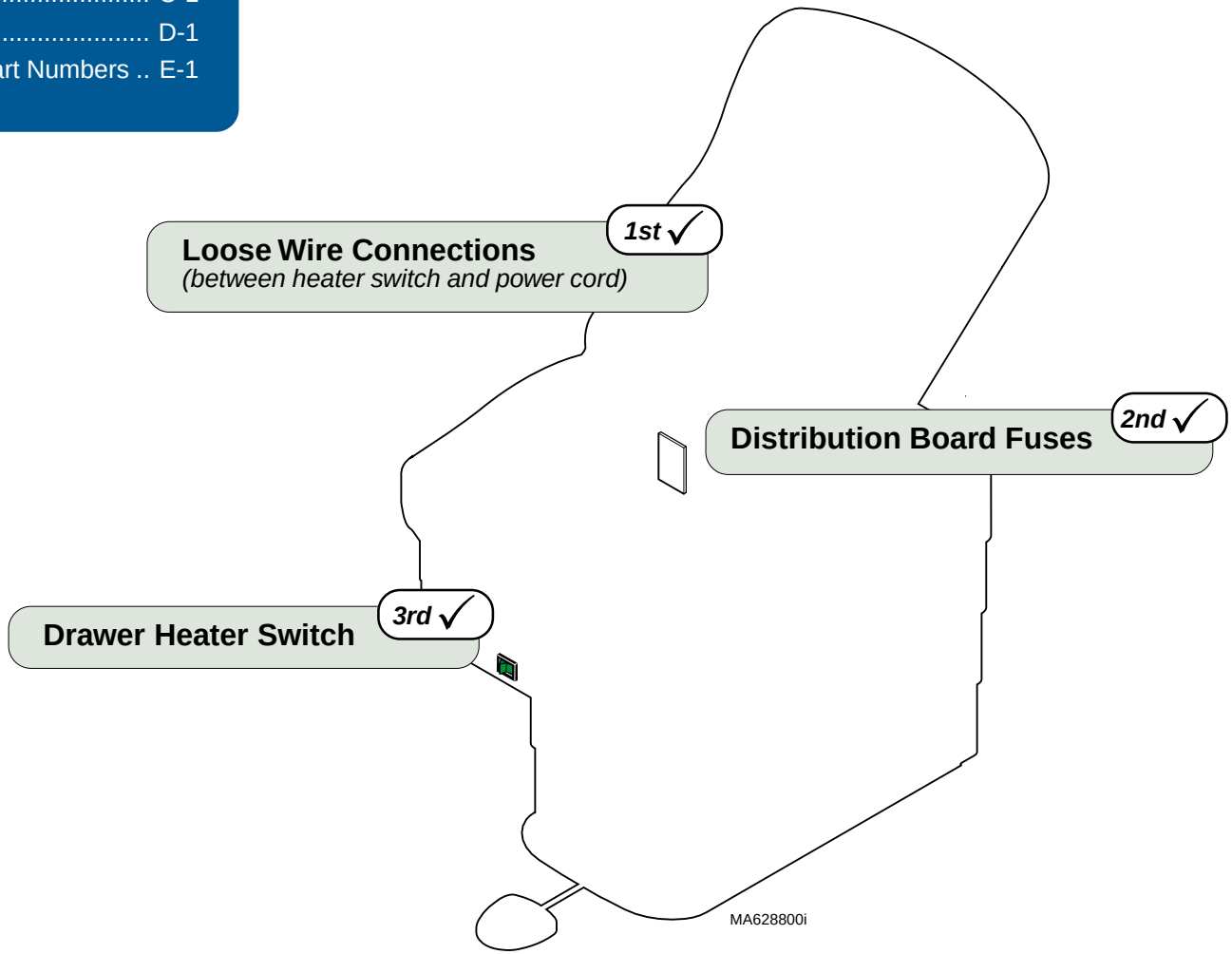

Drawer Heater System

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Operation & Troubleshooting

Function	Status	Problem
Drawer Heater		Does not heat up.
Heater Switch		OK *(Illuminates)*

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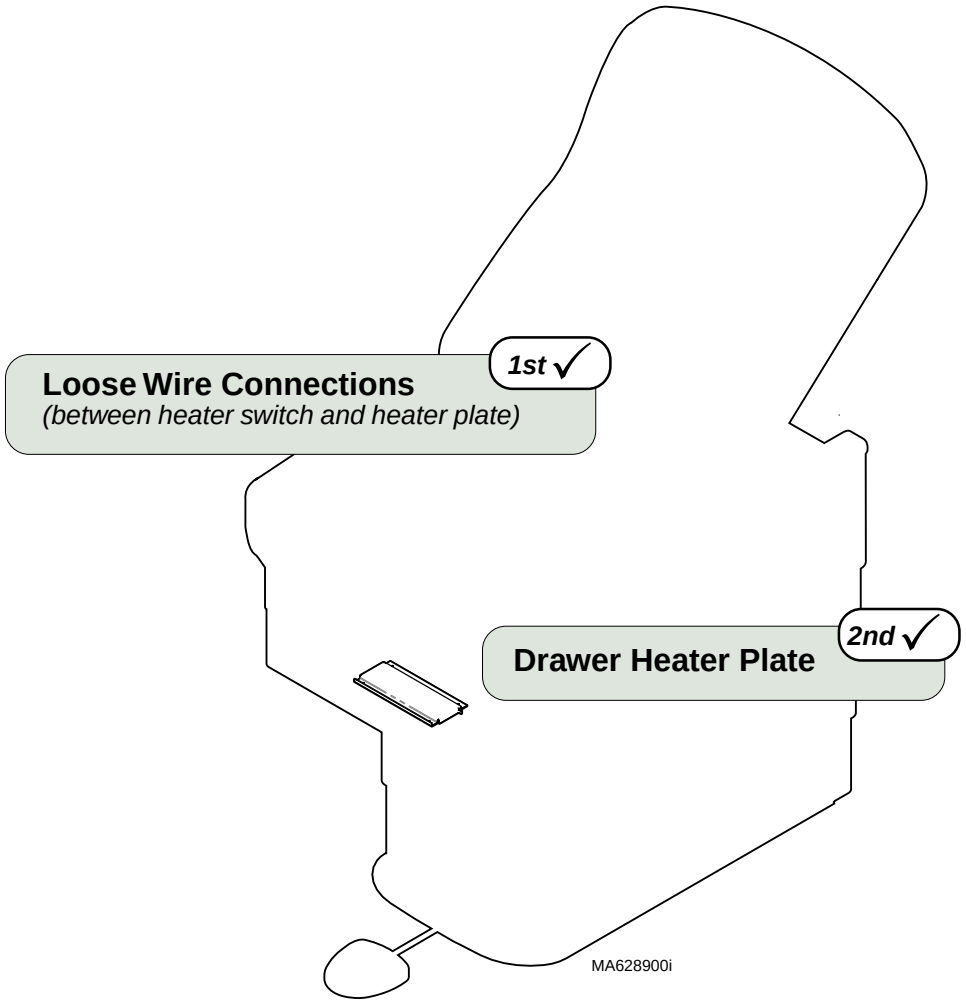

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Drawer Heater System

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Operation & Troubleshooting

Function	Status	Problem
Drawer Heater		OK
Heater Switch		Does not illuminate

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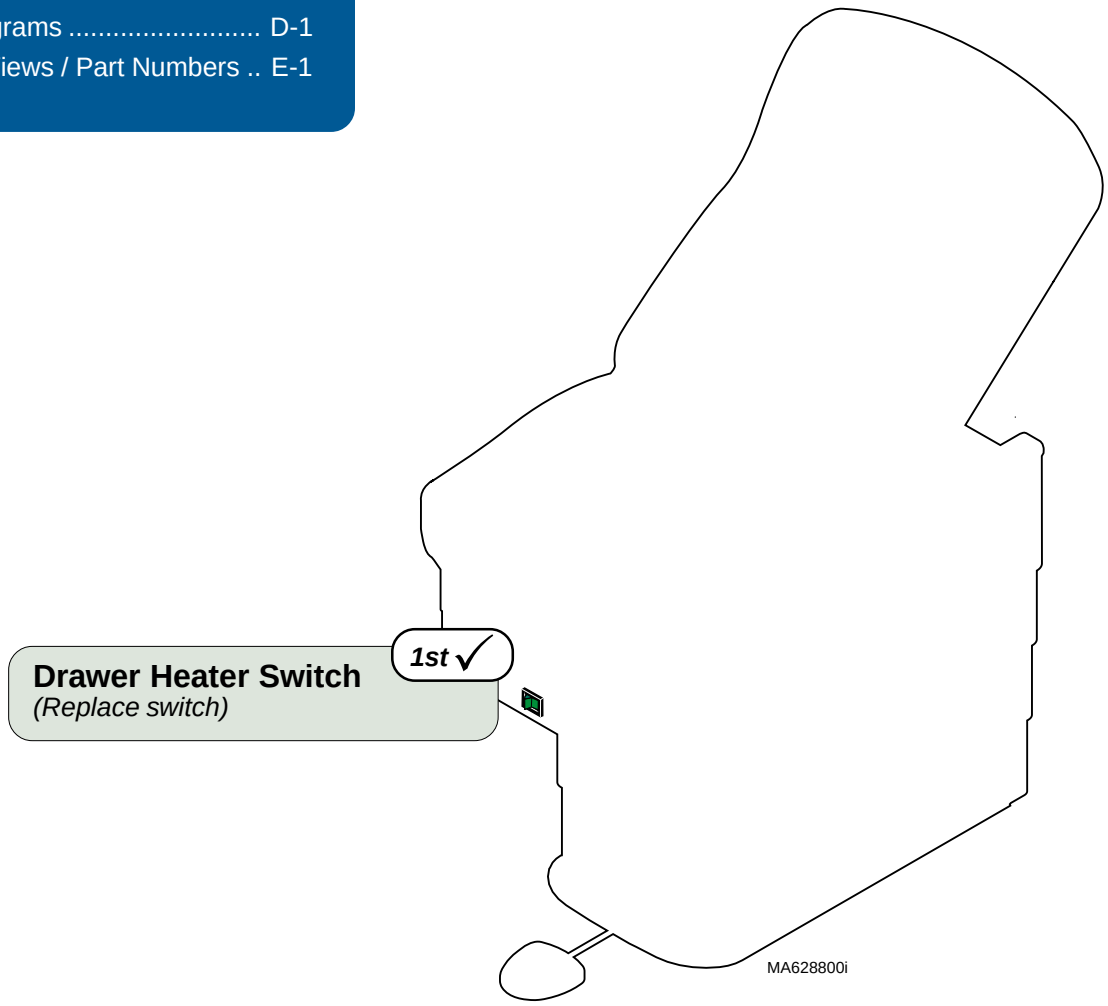

Drawer Heater System

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Table Receptacle (optional)

This illustration shows only the components that affect the table receptacle.
A detailed description of current flow also appears below.

Troubleshooting
[Table Receptacle]

Problem	Page
No Power At Receptacle	A-28

NOTE: *230 VAC models only*
Line voltage (230 VAC) is supplied thru two fuses *(located by the IEC inlet)* to a transformer that reduces the line voltage to 115 VAC before it reaches the Circuit Breaker.

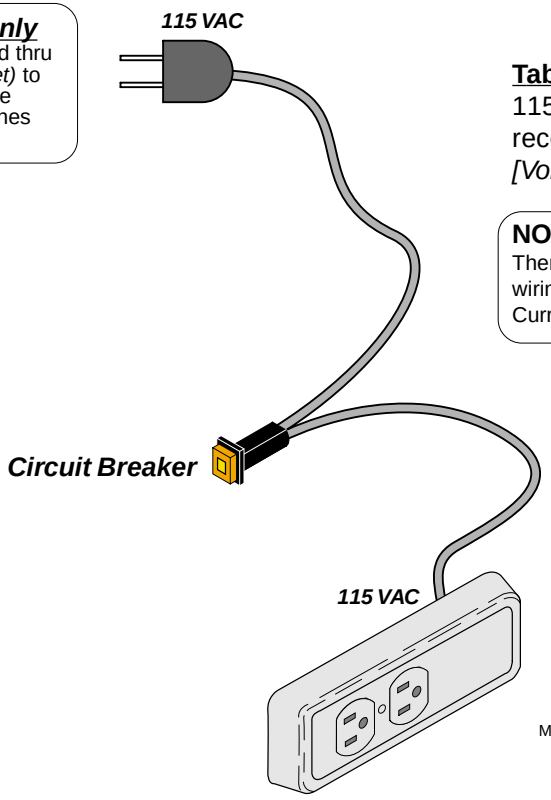

Table Receptacle
115 VAC is supplied directly to the table receptacle thru a circuit breaker.
[Voltage bypasses the Main PC Board].

NOTE: *Models w/drawer heater only*
There is a connection point for the receptacle wiring harness at the distribution board.
Current does not flow thru the distribution board fuses.

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Operation & Troubleshooting

Function	Status	Problem
Table Receptacle		No power.
All other functions		OK

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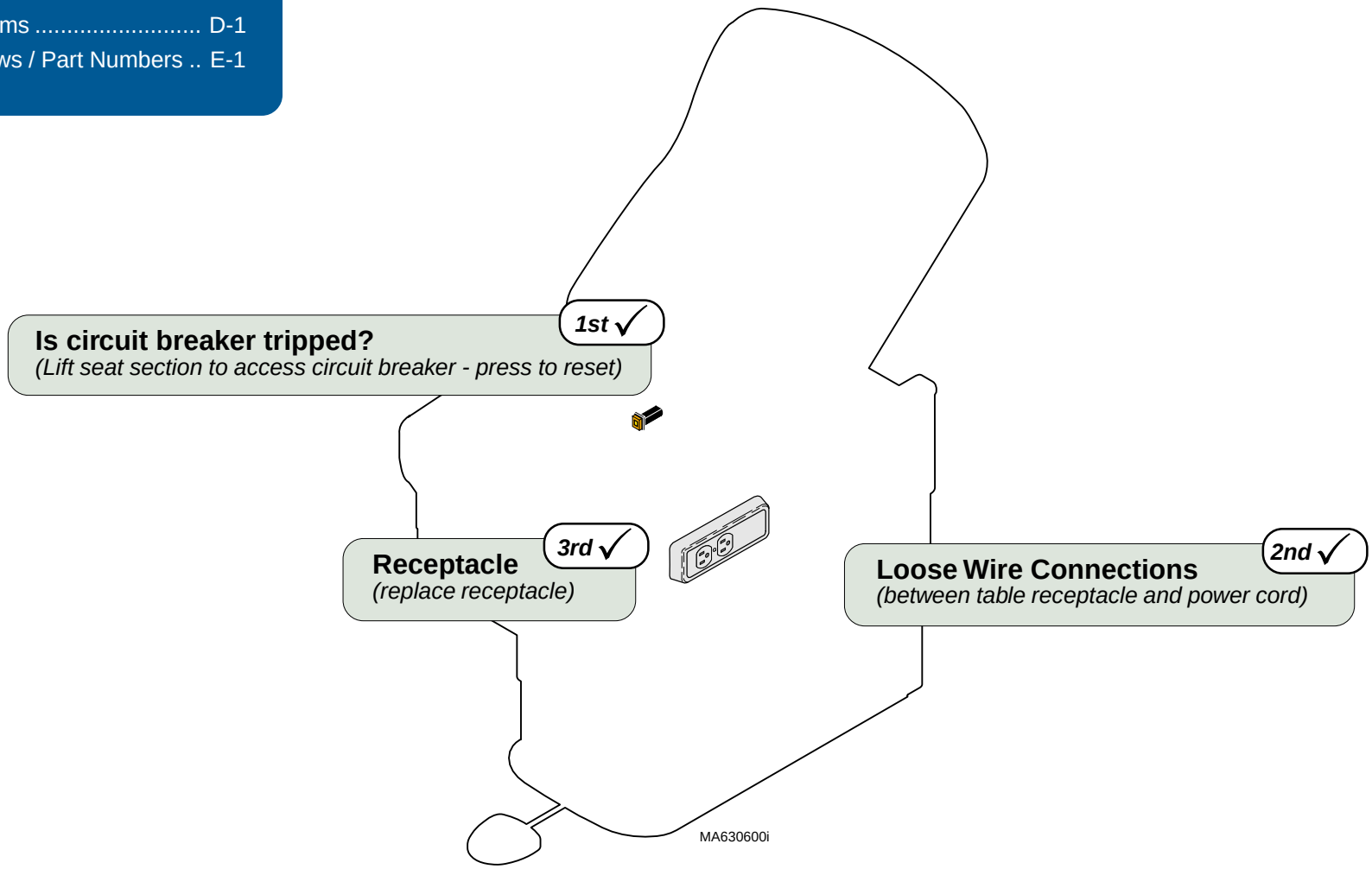

Table Receptacle

This page applies to model numbers: ***222 / 223 / 622 / 623***

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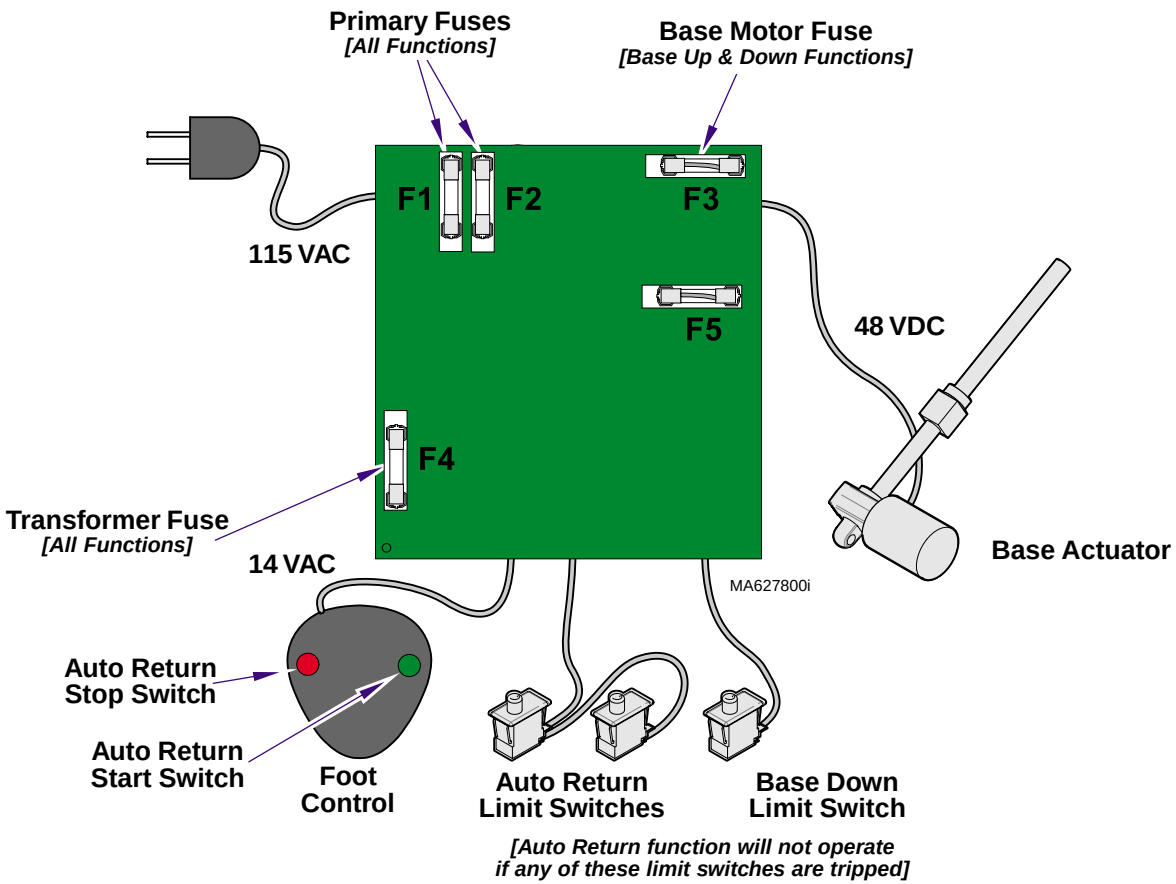
Auto Return Function

This illustration shows only the components that affect the Auto Return function.
Refer to the following page for a detailed description of current flow during this function.



Troubleshooting
[Auto Return Function]

Problem **Page**
Auto Return Function Does Not Work / Base Down Function:
Malfunctioning A-2
Works Properly A-31

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Operation & Troubleshooting

Auto Return Function

Power To Foot Control

115 VAC is supplied thru the two primary fuses *(F1 & F2)* to the transformer on the PC board. *[F4 fuse protects the transformer]*.

The transformer reduces the line voltage and supplies 14 VAC to the foot control.

Auto Return Operation

NOTE
If either of the Auto Return limit switches or the Base Down limit switch are tripped (open), the Auto Return function will not operate.

When the Auto Return Switch is depressed (closed), current *(14 VAC)* flows thru the switch, to the PC Board.

NOTE
The Base Up / Down relay, located on the PC Board, has four contacts (DPDT):
(2) Normally Open: Base Up function
(2) Normally Closed: Base Down function

When this voltage is applied, current *(48 VDC)* flows to the actuator motor thru the (2) Normally Closed contacts of the Base Up / Down relay.
[The relay does not energize].

When voltage flows to the actuator thru the Normally Closed contacts of the relay, the actuator motor runs lowering the table.

Actuator Motor runs until:

1. Stop button is depressed.
2. Auto Return limit switch(es) is tripped.
3. 18 second software time limit is reached.
4. Base Down limit switch is tripped.
5. Fuse(s) opens (blows).
   [Primary, Base Motor, Transformer fuse]

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Operation & Troubleshooting

Function	Status	Problem
Auto Return		No movement
Base Down		OK

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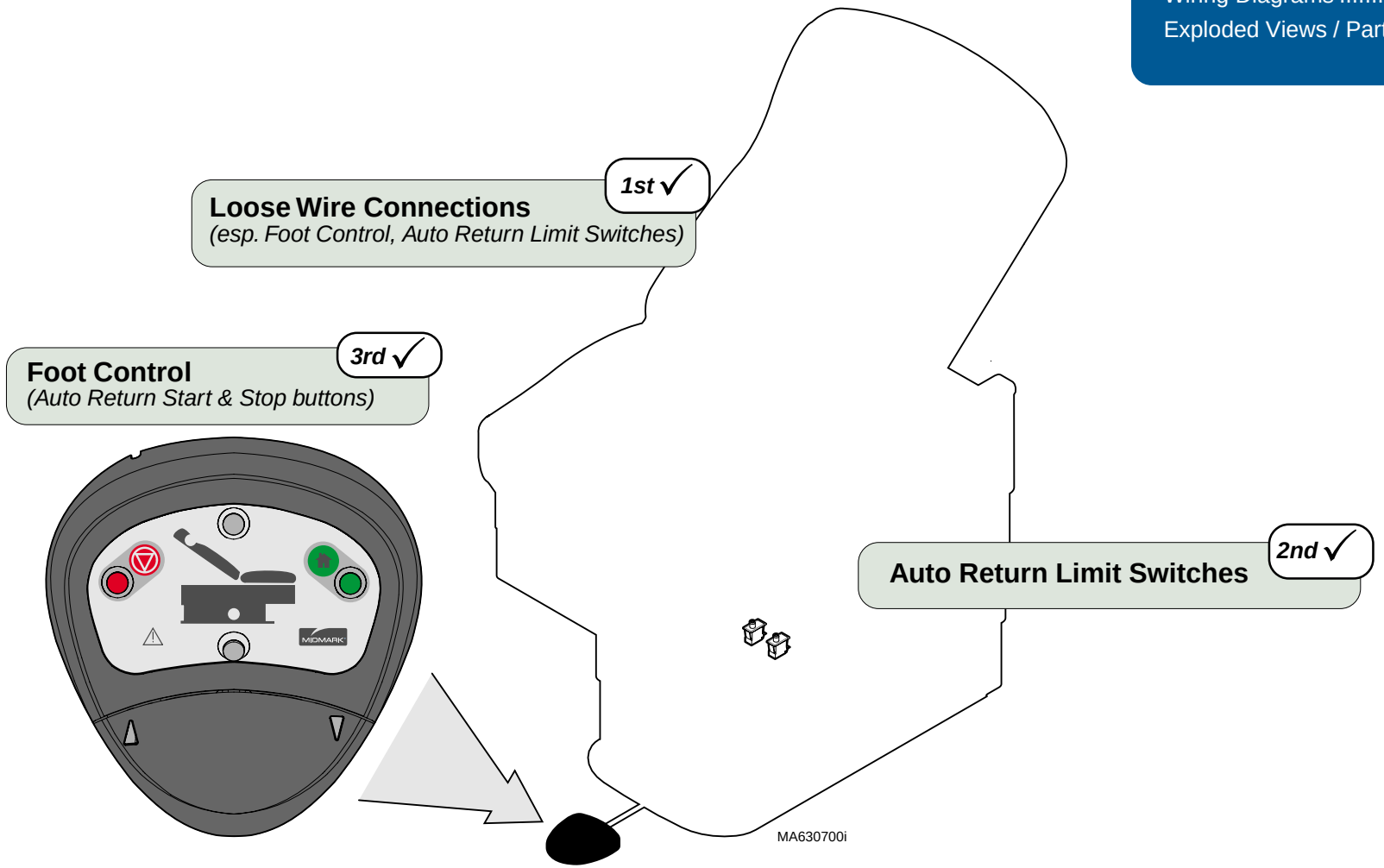

This page applies to model numbers: **623**

Auto Return

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Operation & Troubleshooting

Upholstery Heater System (optional)

This illustration shows only the components that affect the Upholstery Heater System.
A detailed description of current flow during this function also appears below.

Troubleshooting
[Upholstery Heater System]

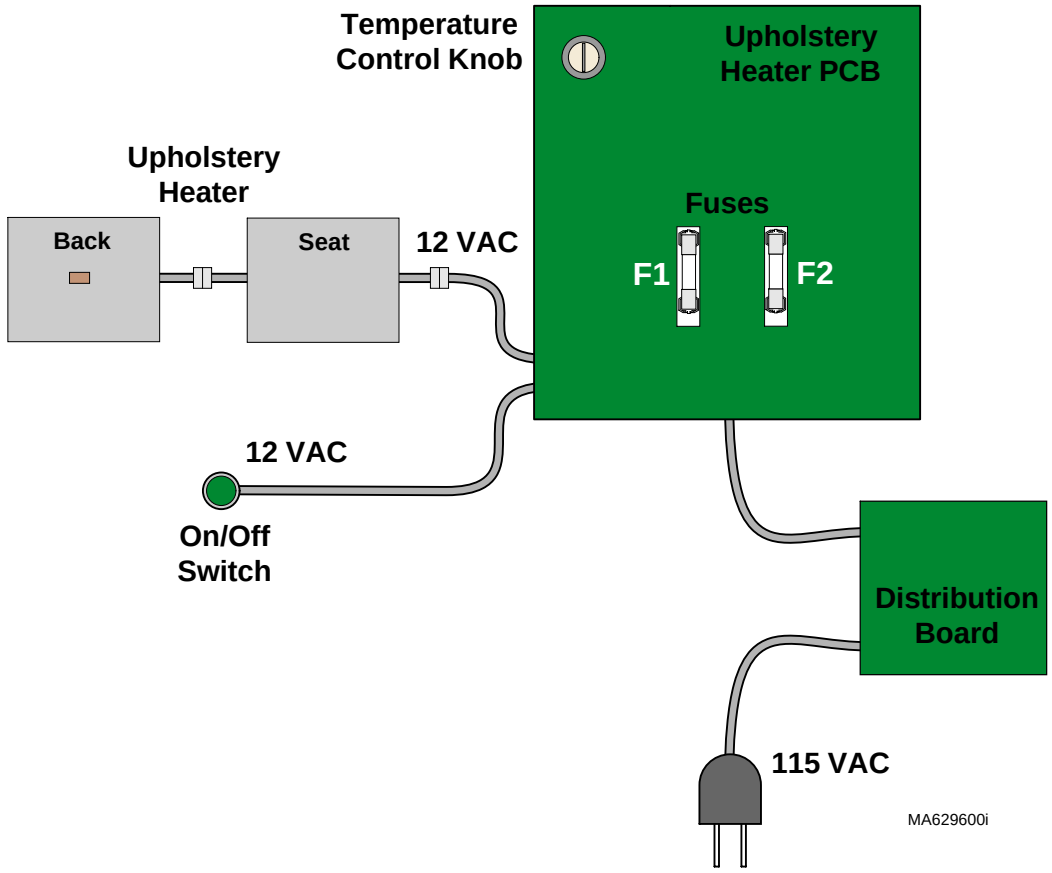
Problem	Page
Heater Does Not Warm Up:	
Switch Does Not Illuminate	B-33
Switch Illuminates	B-34
Heater Works Properly:	
Switch Does Not Illuminate	B-35

Upholstery Heater Operation
115 VAC is supplied thru the IEC inlet to the Distribution PC board and then to the Upholstery Heater PC board at J2 & J3.
Fuses F1 and F2 protect the circuit.
Circuitry on PC board converts 115 VAC to 12 VAC.

Depressing and releasing the momentary On/ Off Switch supplies approximately 12 VAC to the Upholstery Heater.
A timer on the PC board *(initiated when the On/ Off Switch is depressed)* keeps the heater activated for an 8 hour period unless the Switch is depressed Off.

The upholstery heater temperature can be regulated by the operator. Turning the temperature knob will increase or decrease the voltage to the heater. The temperature can be varied to a maximum of 105^{O} F (41^{O} C).
A thermostat, located in Back Heating Pad, opens at 131^{O} F (55^{O}C) +/- 10% removing power from both Back and Seat heating elements.

Upholstery Heater runs until:
1. Stop button is depressed.
2. 8 hour time limit is reached.
3. Fuse(s) on Upholstery Heater PCB opens (blows).



This page applies to model numbers: ***622 / 623***

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Operation & Troubleshooting

Function	Status	Problem
Upholstery Heater		Does not heat up.
Heater Switch		Does not illuminate

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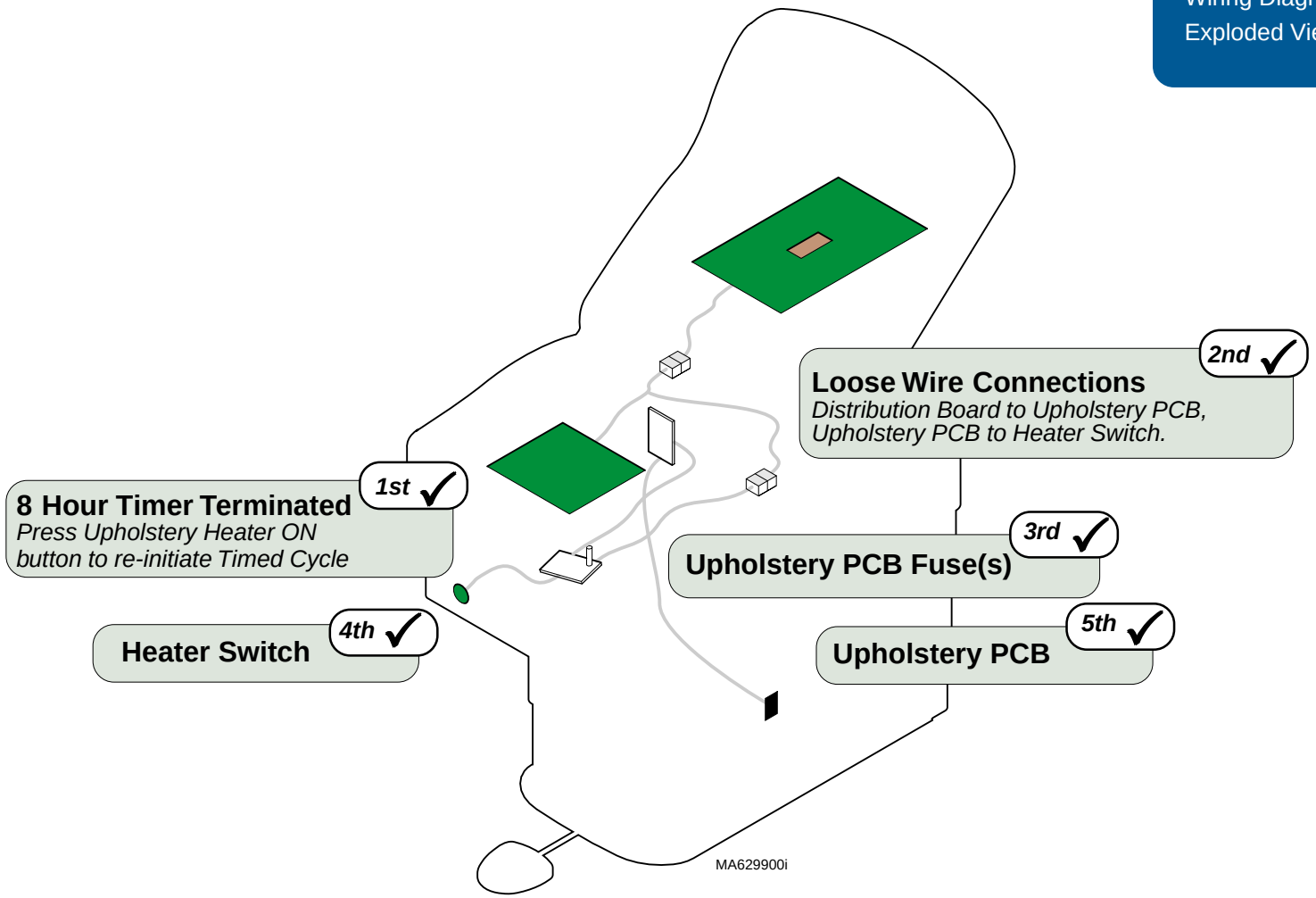

This page applies to model numbers: ***622 / 623***

Upholstery Heater

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Operation & Troubleshooting

Function	Status	Problem
Upholstery Heater		Does not heat up.
Heater Switch		Illuminates.

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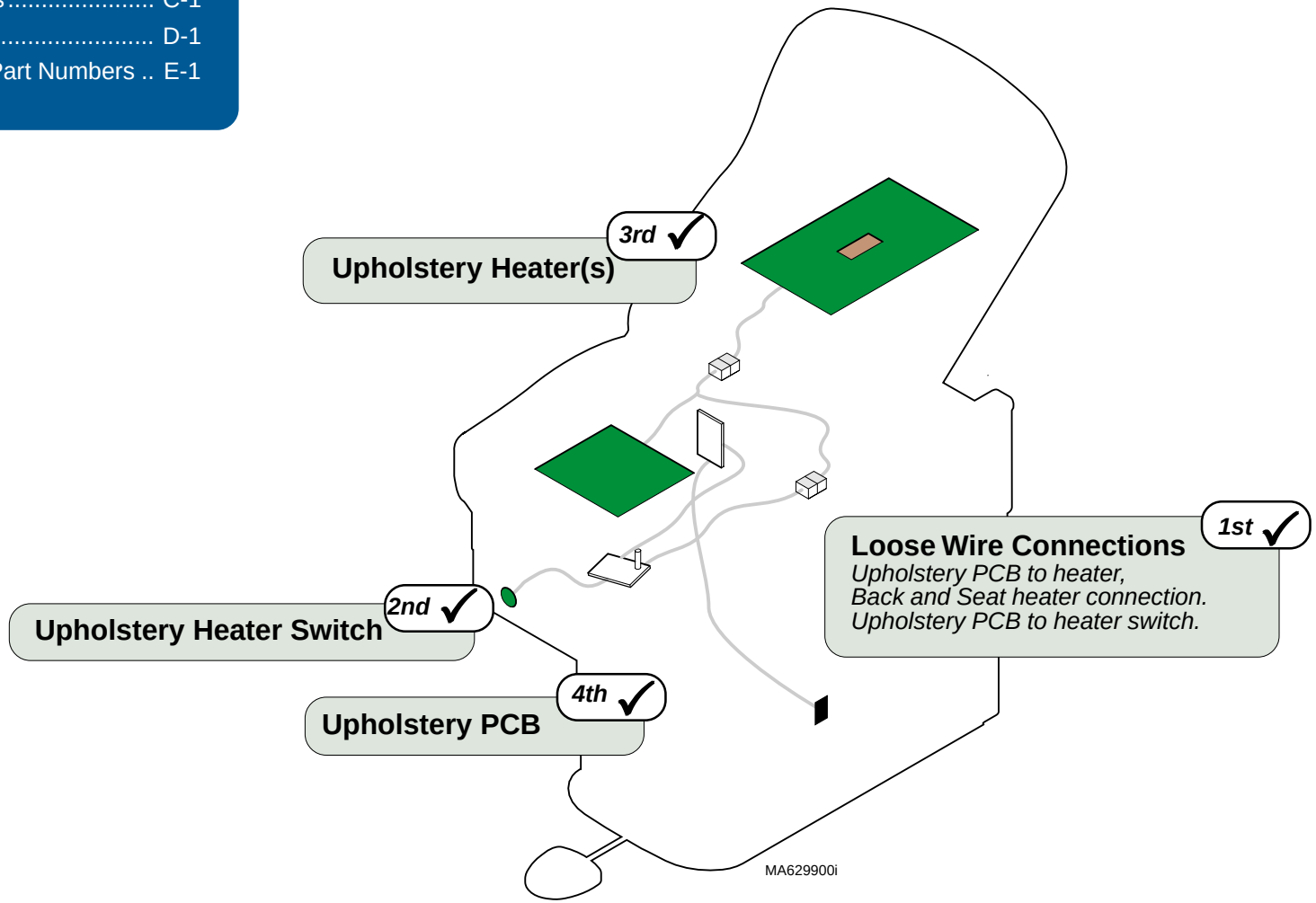

Upholstery Heater

This page applies to model numbers: ***622 / 623***

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Operation & Troubleshooting

Function	Status	Problem
Upholstery Heater		OK
Heater Switch		Does not illuminate

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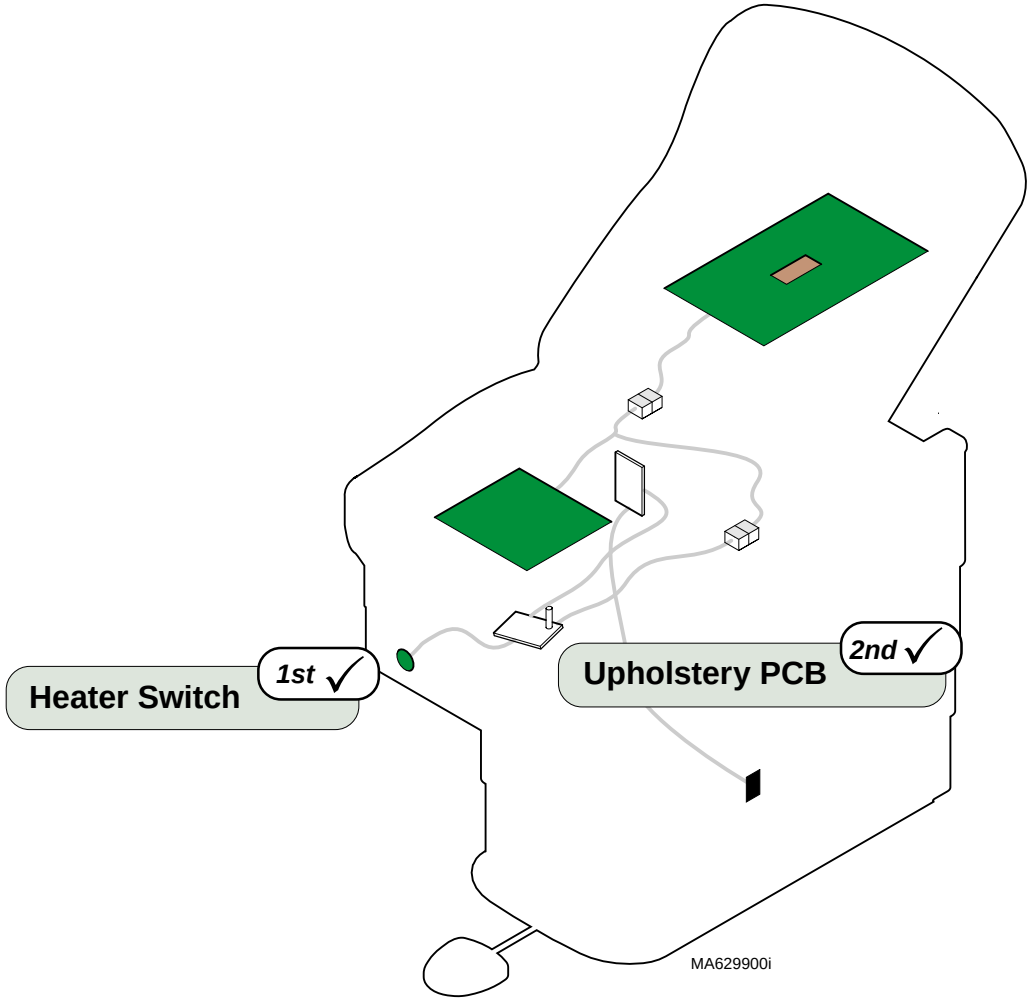

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Operation & Troubleshooting

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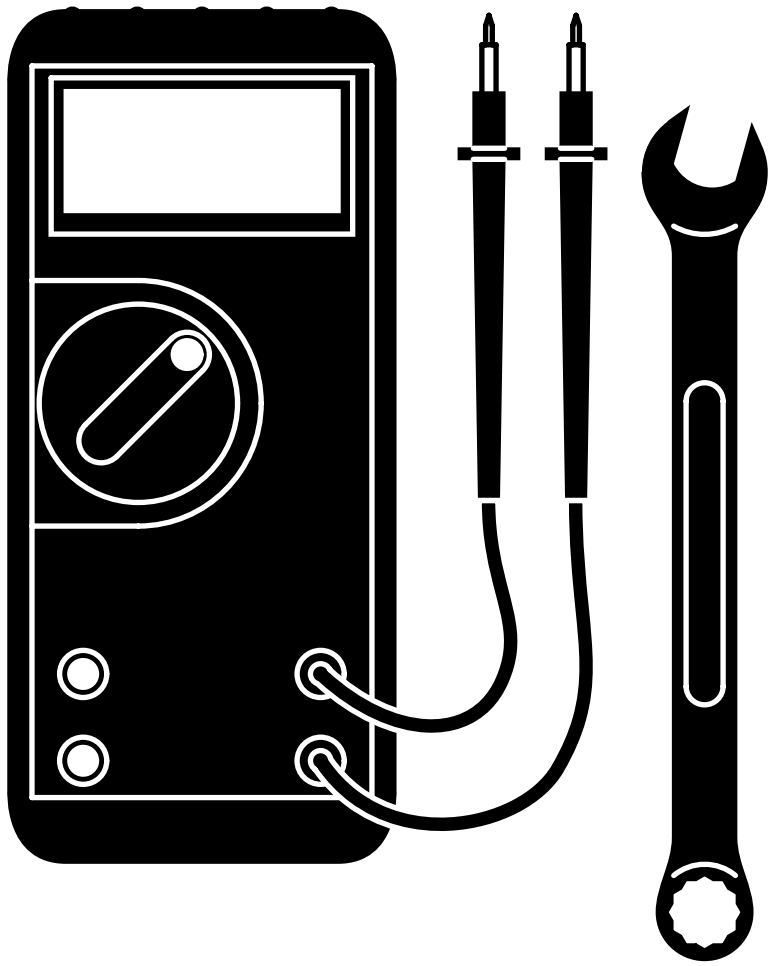
Section B

Component Testing & Repair

Components	Page
Fuses	B-2
Limit Switches	B-4
Foot Control	B-6
Base Actuator	B-9
Back Actuator *(power)*	B-9
Back Release Mechanism *(manual)*	B-15
Main PC Board	B-17
Drawer Heater System	B-21
Upholstery Heater System	B-27

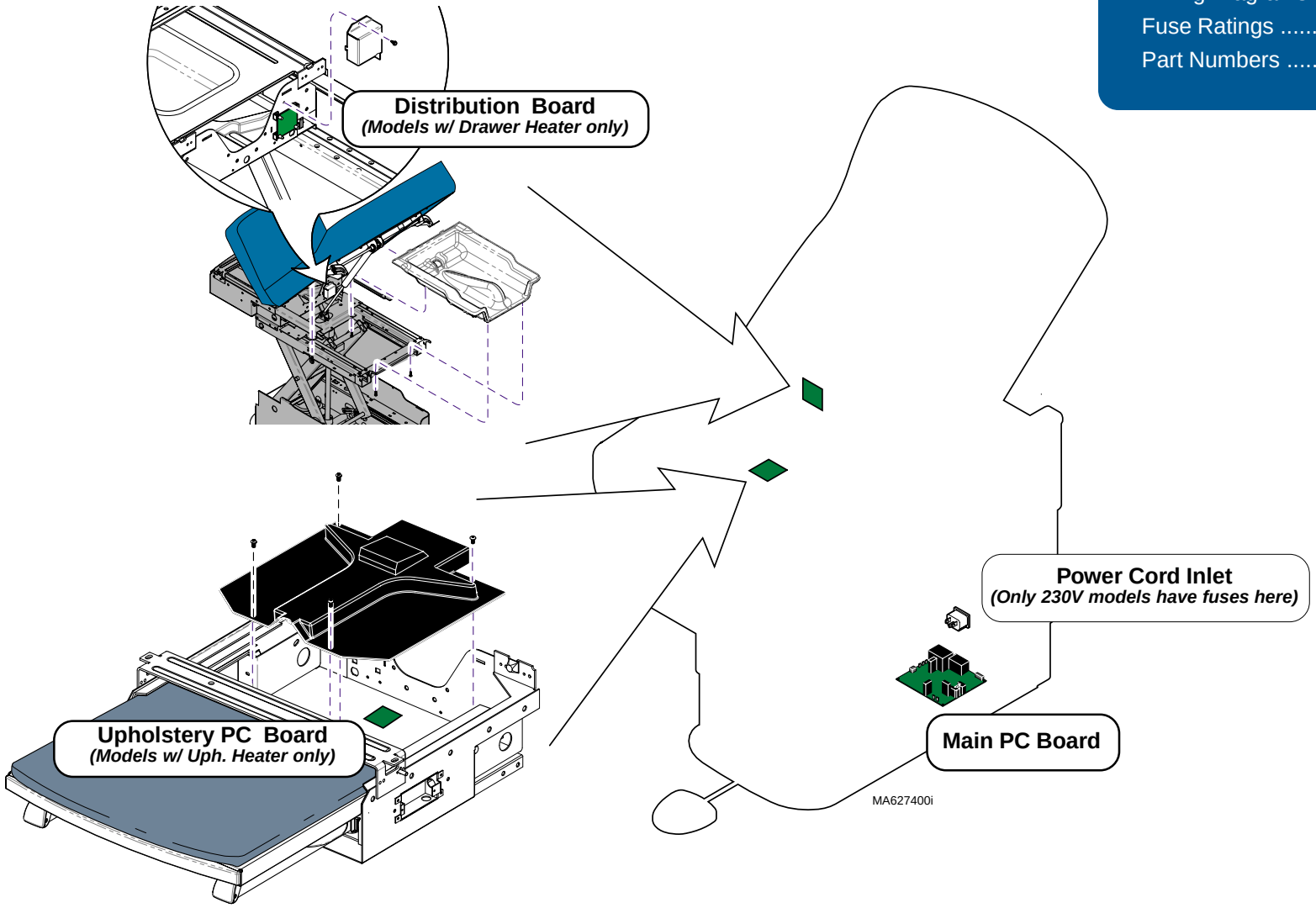


Component Testing & Repair

Fuses

Location

Fuses	Page
Location	B-2
Fuse Test	B-3
Access Procedures	C-1
Wiring Diagrams	D-1
Fuse Ratings	E-24
Part Numbers	E-24



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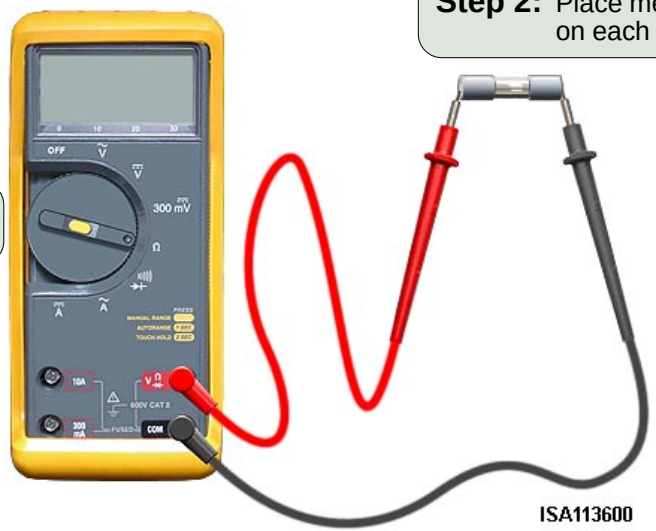
Component Testing & Repair

Fuses - *continued*

Fuse Test

Fuse Test
Step 1: Set meter to 200 **Ω.**

Fuse Test
Step 2: Place meter probes on each end of fuse.



Meter Readng	*Status*	*Required Action*
OL		Replace fuse.
Any resistance reading		Fuse is good.

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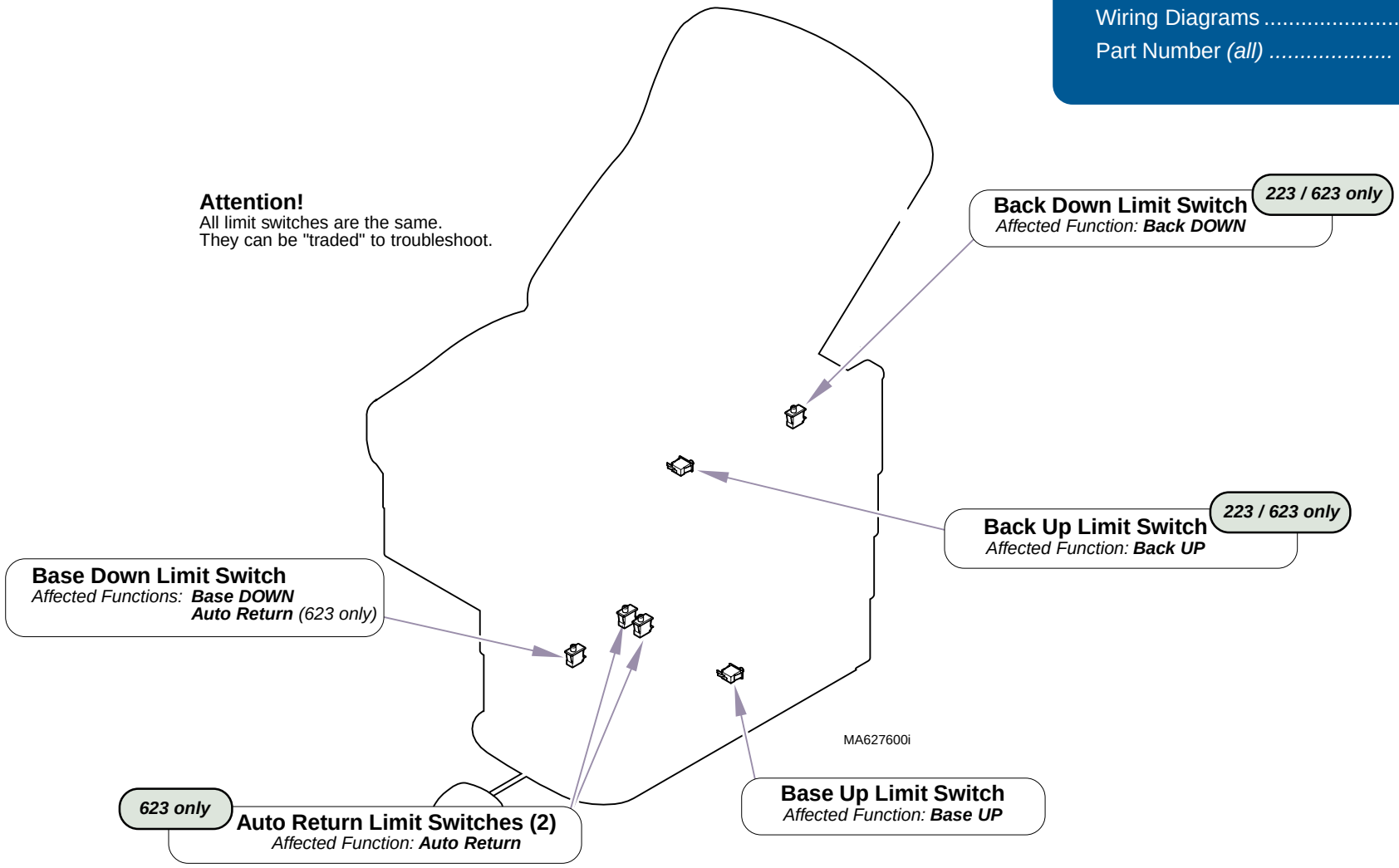
Component Testing & Repair

Limit Switches

Location

Limit Switches	Page
Location	B-4
Limit Switch Test	B-5
Access Procedures	C-1
Wiring Diagrams	D-1
Part Number *(all)*	**015-1055-00**



Limit Switches

This page applies to model numbers: ***222 / 223 / 622 / 623***

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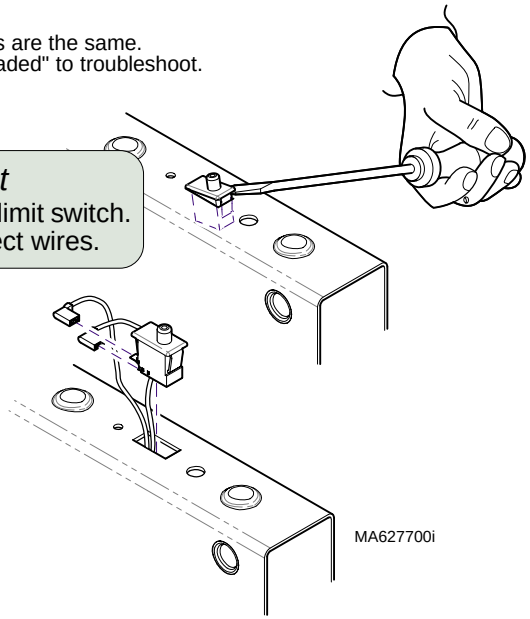
Component Testing & Repair

Limit Switches - *continued*

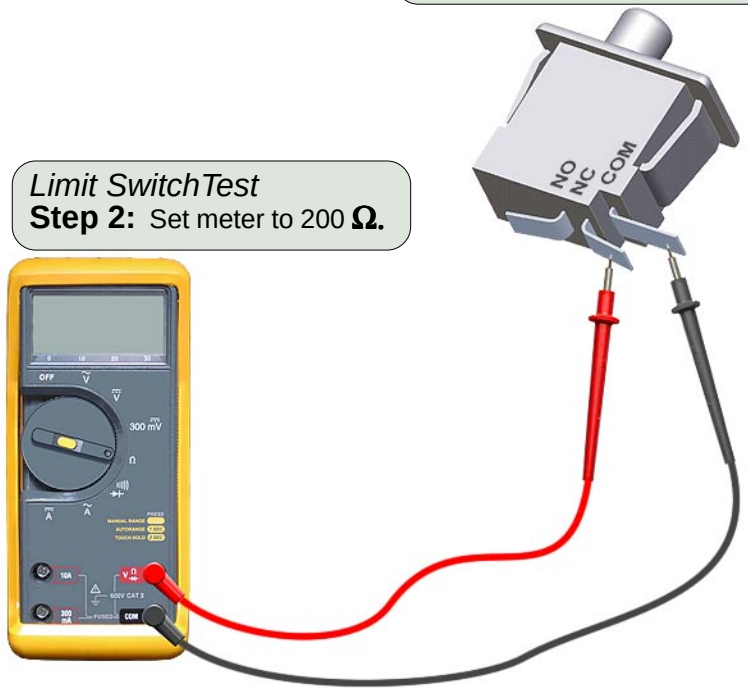
Limit Switch Test

Attention!
All limit switches are the same.
They can be "traded" to troubleshoot.

Limit Switch Test
Step 1: Remove limit switch. Disconnect wires.



Limit SwitchTest
Step 2: Set meter to 200 **Ω.**



Limit Switch Test
Step 3: Place meter probes on ***COM*** *and* ***NC*** terminals.

Note: *Check switch 'tripped' and 'untripped'.*

With switch 'tripped'...

Meter Readng	*Status*	*Required Action*
OL		Switch is good. Perform next check.
Any resistance reading		Replace switch

With switch 'untripped'...

Meter Readng	*Status*	*Required Action*
OL		Replace switch
Any resistance reading		Switch is good. Perform next check.

This page applies to model numbers: ***222 / 223 / 622 / 623***

Limit Switches

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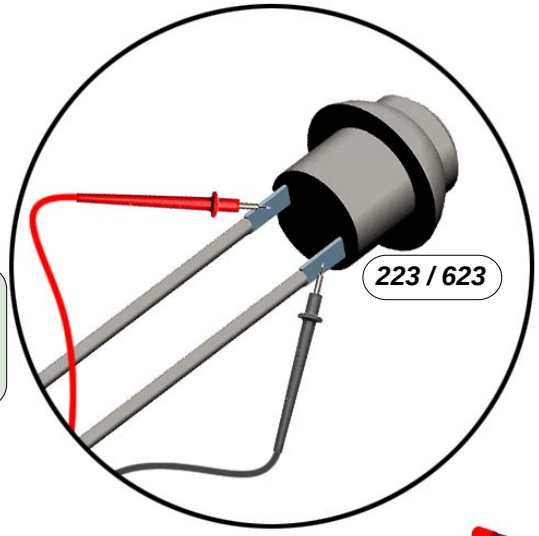
Component Testing & Repair

Foot Control

Foot Switch Test

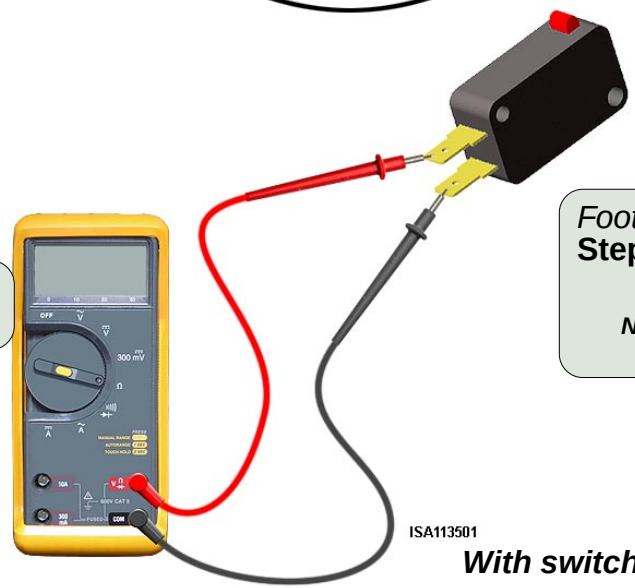


Foot Control	Page
Foot Switch Test	B-6
Foot Switch Replacement:	
222 / 622	B-7
223 / 623	B-8
Wiring Diagrams	D-1
Exploded View / Part Numbers:	
222 / 622	E-26
223	E-27
623	E-28

Foot SwitchTest
Step 1: Remove foot control switch.

Note: *Refer to* ***Foot Switch Replacement****.*

222 / 622



Foot Switch Test
Step 2: Set meter to 200 **Ω.**

Foot Switch Test
Step 3: Place meter probes on ***COM*** *and* ***NO*** terminals.

Note: *Check switch 'tripped' and 'untripped'.*

With switch 'tripped'...

Meter Readng	*Status*	*Required Action*
Any resistance reading		Switch is good. Perform next check.
OL		Replace switch

With switch 'untripped'...

Meter Readng	*Status*	*Required Action*
Any resistance reading		Replace switch.
OL		Switch is good. Perform next check.

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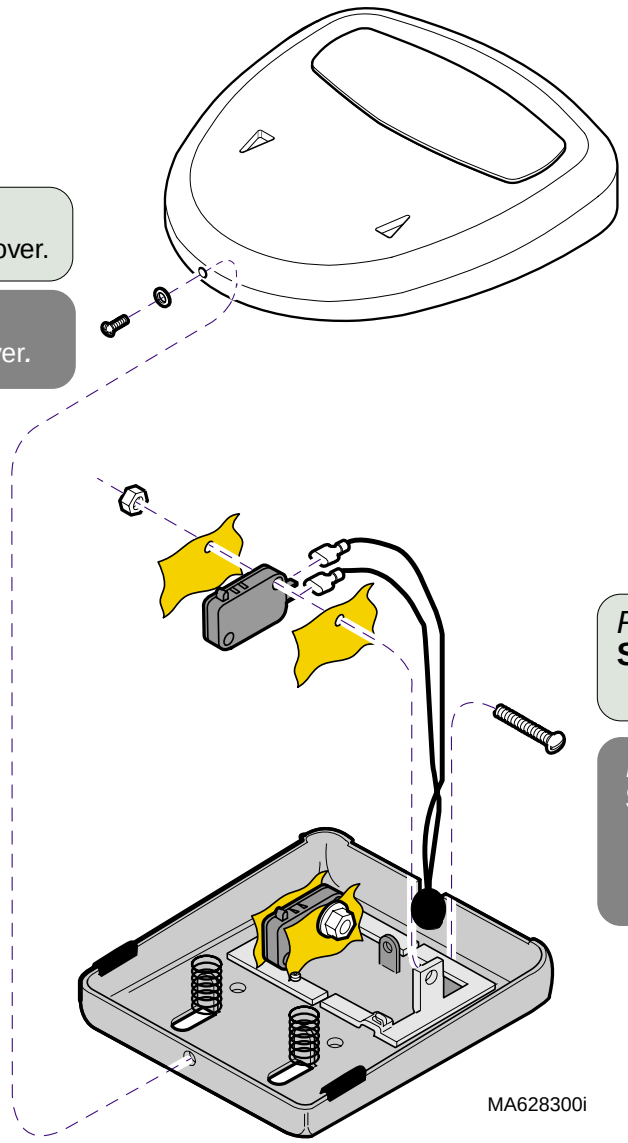
Component Testing & Repair

Foot Control - continued

Foot Switch Replacement



Removal
Step 1: Remove cover.

Installation
Step 2: Install cover.

Removal
Step 2: Remove switch.
Disconnect wires.

Installation
Step 1: Install switch.
Connect wires.

Note: *Be sure insulating material is in place.*

This page applies to model numbers: ***222 / 622***

Foot Control

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Component Testing & Repair

Foot Control - *continued*

Foot Switch Replacement

Installation
Step 2: Insert switch wires into connector.
Connect wire harness to PC board.

Removal
Step 4: Disconnect proper wire harness from PC board.
Press tabs, then pull faulty switch wires from connector.

Installation
Step 3: Connect coil cord & pedal switch wire harness to PC board.

Removal
Step 3: Disconnect coil cord & pedal switch wire harness from PC board.

Removal
Step 1: Disconnect coil cord from table.
Remove strain relief clamp.

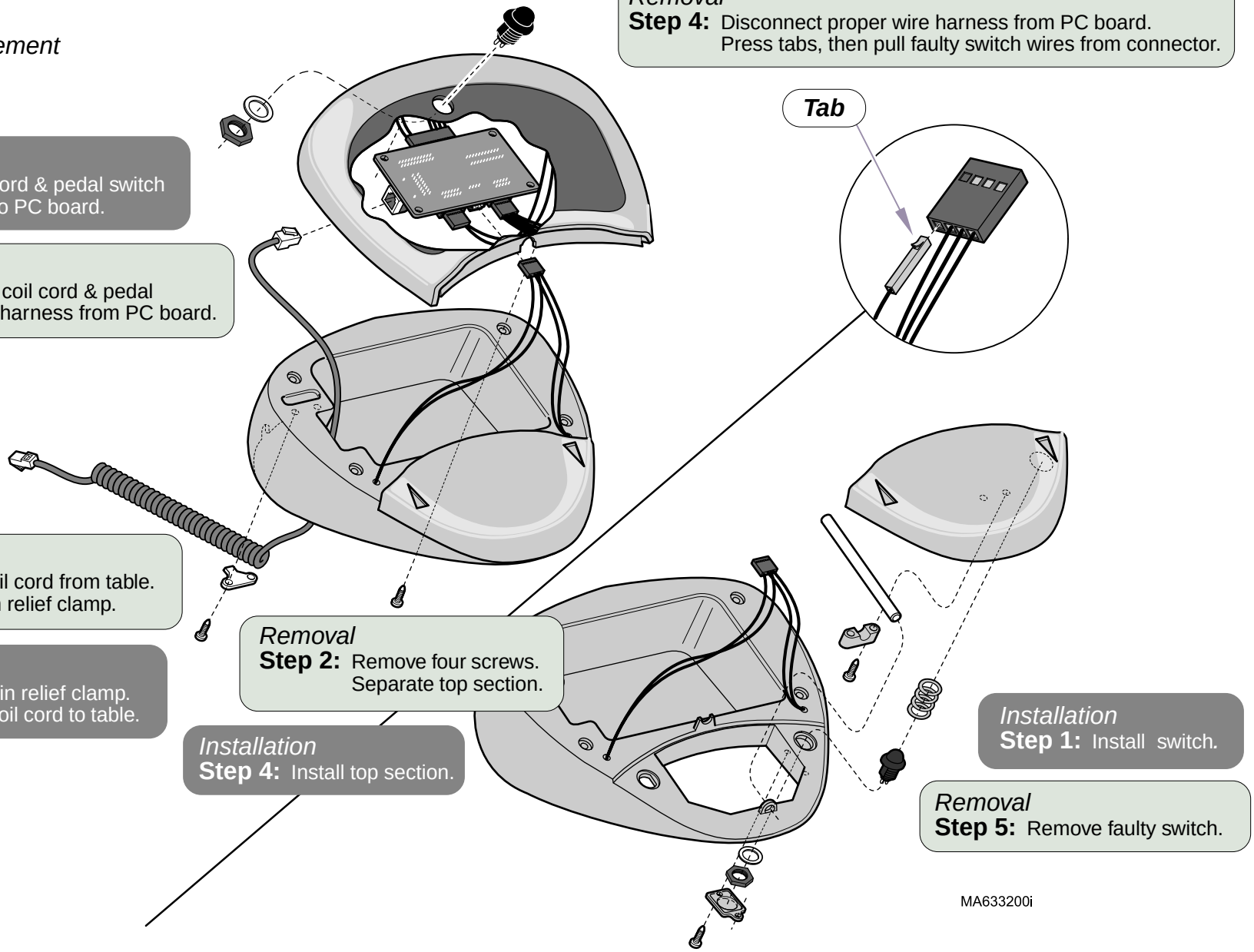
Installation
Step 5: Install strain relief clamp.
Connect coil cord to table.

Removal
Step 2: Remove four screws.
Separate top section.

Installation
Step 4: Install top section.

Installation
Step 1: Install switch.

Removal
Step 5: Remove faulty switch.



Foot Control

This page applies to model numbers: ***223 / 623***

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Component Testing & Repair

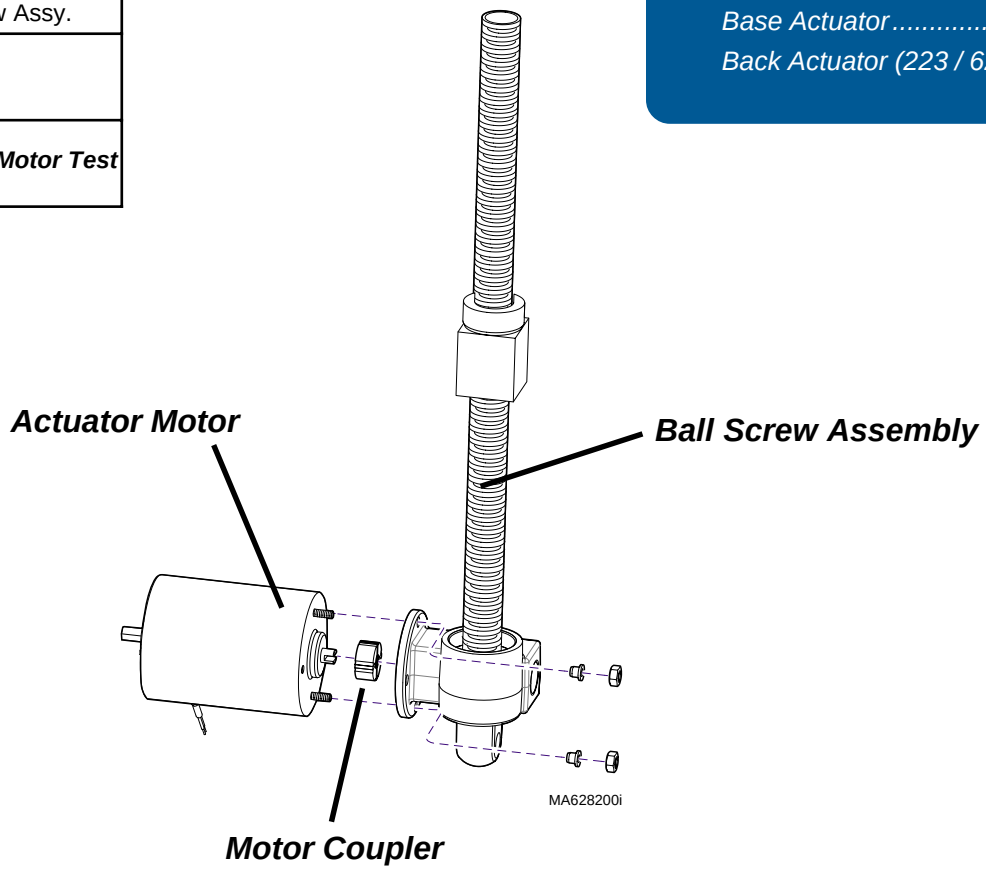
Base / Back Actuator

This illustration shows the three seviceable components of the actuator.
Use the table below to isolate the malfunctioning part.

Problem	***Required Action***
Motor runs, but makes grinding noise.	Clean Ball Screw threads. ***-or*** Replace Ball Screw Assy.
Motor runs, but table does not move.	Inspect / replace Motor Coupler.
Motor does not run.	Perform ***Actuator Motor Test***

Base / Back Actuator **Page**

Actuator Motor Test B-10
Replacement:
Base Actuator B-11
Back Actuator (223 / 623) B-13
Wiring Diagrams D-1
Exploded View / Part Numbers:
Base Actuator E-25
Back Actuator (223 / 623) E-12



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Component Testing & Repair

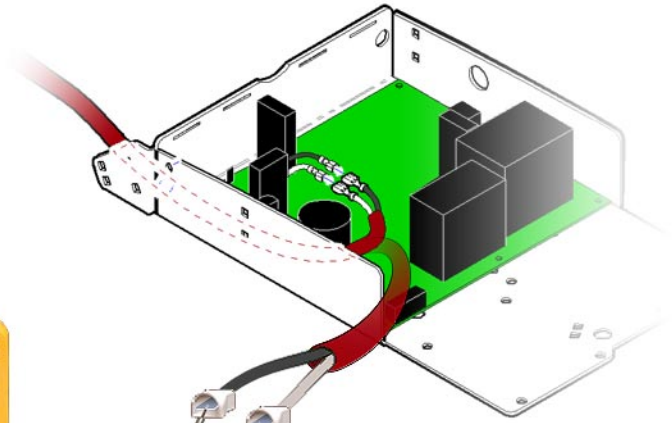
Base / Back Actuator - continued

Actuator Motor Test

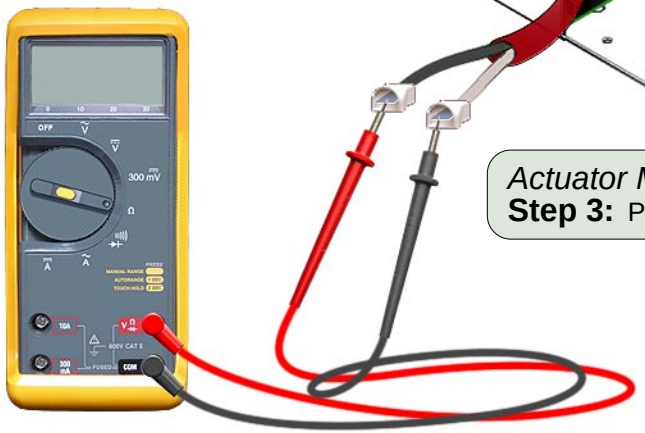
Caution
Unplug power cord before removing PC Board cover.

Actuator Motor Test
Step 1: Disconnect actuator wires from PC Board.
[Base Actuator: J2 & J3]
[Back Actuator: J4 & J5 *(223 / 623 only)*]

Note: *Refer to next page to access PC Board.*



Actuator Motor Test
Step 2: Set meter to 200 **Ω.**



Actuator Motor Test
Step 3: Place meter probes on actuator wires.

ISA113700

Meter Readng	*Status*	*Required Action*
2- 3 Ω		Motor is good. Perform next check.
0 Ω		Replace motor.

Base / Back Actuator

This page applies to model numbers: ***222 / 223 / 622 / 623***

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Component Testing & Repair

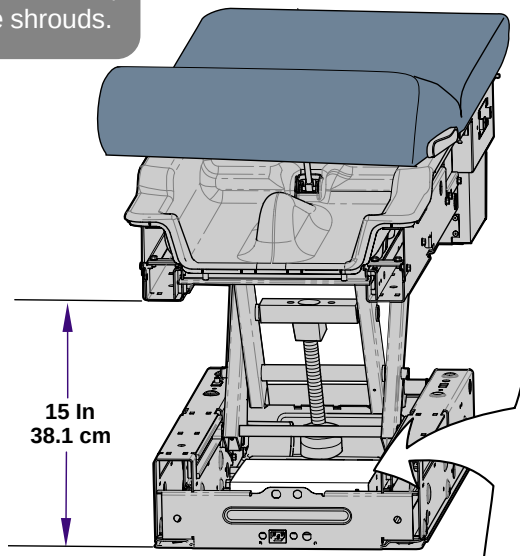
Base Actuator

Replacement

Access Procedures	Page
Table Shrouds	
Removal / Installation	C-2
Manually Raising / Lowering Table	C-5

Removal *(see Access Procedures)*
Step 1: Remove table shrouds.

Installation *(see Access Procedures)*
Step 7: Replace table shrouds.



Caution
Unplug power cord before removing PC Board cover.

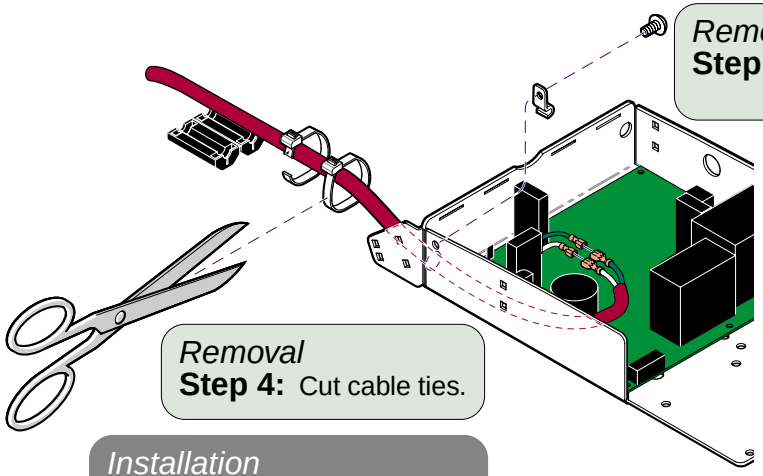
Removal
Step 3: Remove PC Board cover.

Installation
Step 6: Replace PC Board cover.

Installation
Step 4: Connect base actuator motor wires.

Note: Clamp must be installed over stripped portion of actuator wire.

Removal
Step 5: Disconnect base actuator motor wires.



Removal
Step 4: Cut cable ties.

Installation
Step 5: Replace cable ties.

Removal
Step 2: Position table so that bottom of upperwrap is approx. 15 in. from floor.

Note: If necessary, manually raise / lower table. *(see Access Procedures)*

This page applies to model numbers: ***222 / 223 / 622 / 623***

Base / Back Actuator

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Component Testing & Repair

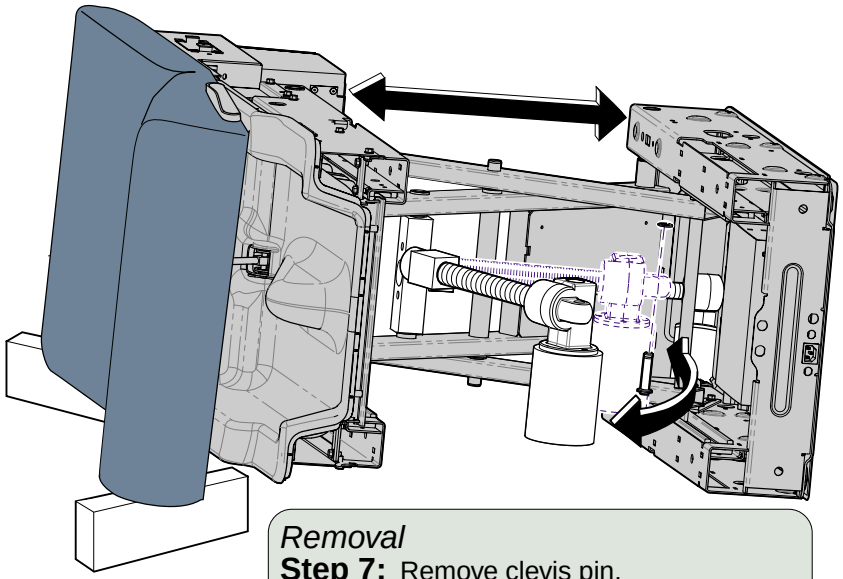
Base Actuator - continued

Replacement - continued

Caution
Use an assistant when laying / lifting table.
Remove all accessories (chair arms, storage pod, etc.)

Removal
Step 6: Lay table down on LH side.

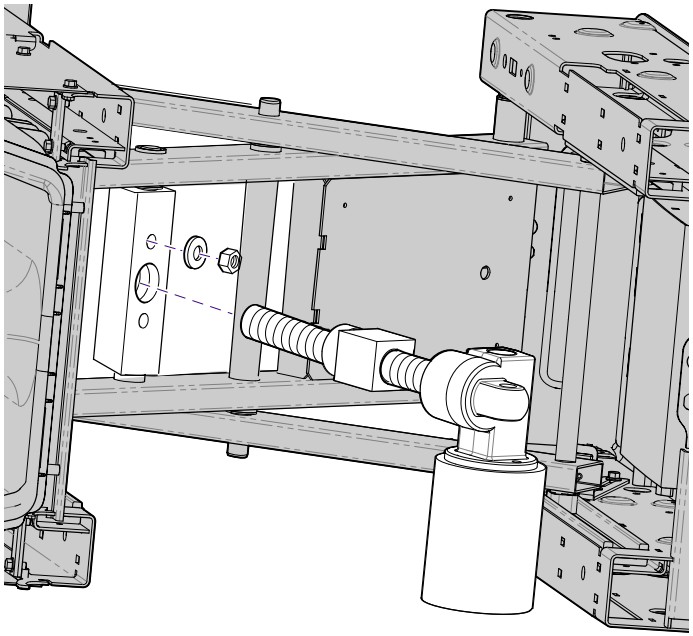
Installation
Step 3: Carefully lift table upright.



Removal
Step 7: Remove clevis pin.
Pull base out to its full extension.
Pivot actuator toward head end.

Installation
Step 2: Pivot actuator toward foot end.
Push base together.
Install clevis pin & clip ring.

Removal
Step 8: Remove nut and washer.
Unscrew actuator block from mounting block.



MA628100i

Installation
Step 1: Thread actuator block 1/2 way down shaft.
Thread actuator block into mounting block.
Install washer and nut.

This page applies to model numbers: ***222 / 223 / 622 / 623***

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Component Testing & Repair

Back Actuator

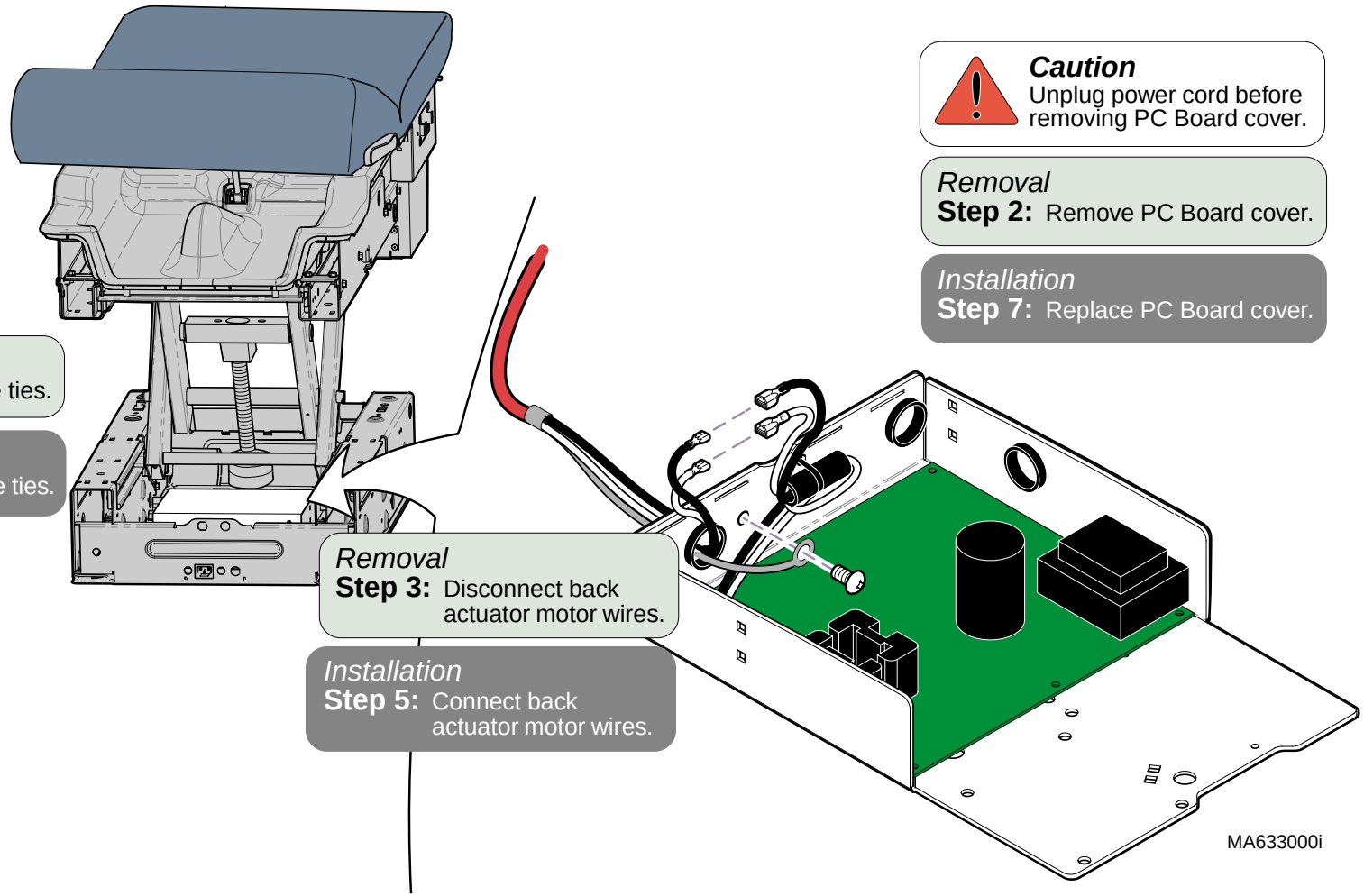
Replacement

Access Procedures **Page**
Table Shrouds
Removal / Installation C-2

Removal *(see Access Procedures)*
Step 1: Remove outer shrouds.

Note: *The inner and middle shrouds will drop down. It is not necessary to remove them.*

Installation
Step 8: Replace shrouds.



Caution
Unplug power cord before removing PC Board cover.

Removal
Step 2: Remove PC Board cover.

Installation
Step 7: Replace PC Board cover.

Removal
Step 4: Cut all cable ties.

Installation
Step 6: Replace all cable ties.

Removal
Step 3: Disconnect back actuator motor wires.

Installation
Step 5: Connect back actuator motor wires.

MA633000i

This page applies to model numbers: ***223 / 623***

Base / Back Actuator

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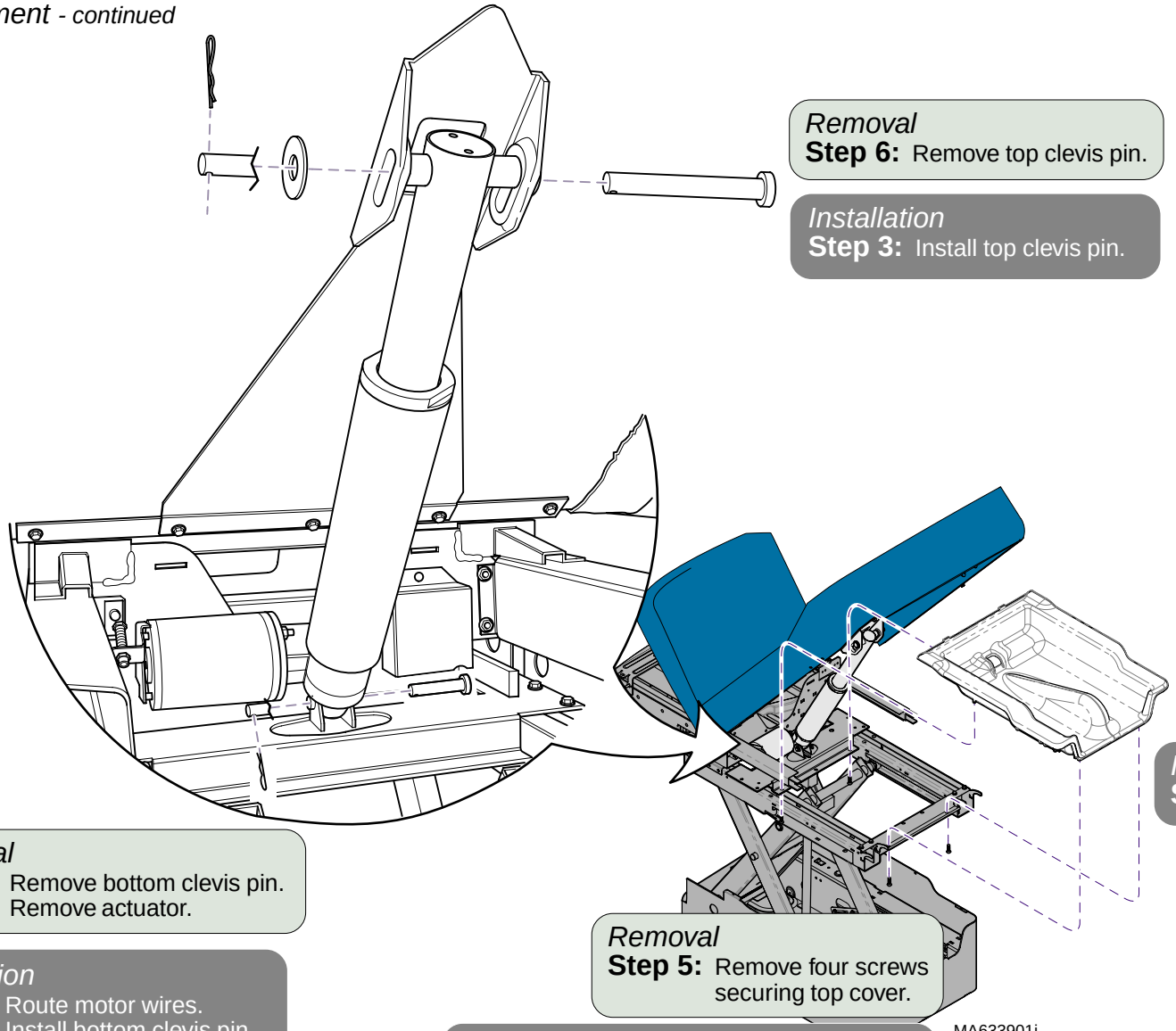
Component Testing & Repair

Back Actuator - continued

Replacement - continued



Removal
Step 6: Remove top clevis pin.

Installation
Step 3: Install top clevis pin.

Removal
Step 7: Remove top cover.

Installation
Step 2: Slide top cover over actuator.

Removal
Step 8: Remove bottom clevis pin.
Remove actuator.

Installation
Step 1: Route motor wires.
Install bottom clevis pin.

Removal
Step 5: Remove four screws securing top cover.

Installation
Step 4: Secure top cover with four screws.

MA633901i

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This page applies to model numbers: ***223 / 623***

Component Testing & Repair

Back Release Mechanism

Back Release Handle Adjustment

Back Release Mechanism **Page**

Back Release Handle Adjustment B-15

Gas Cylinder

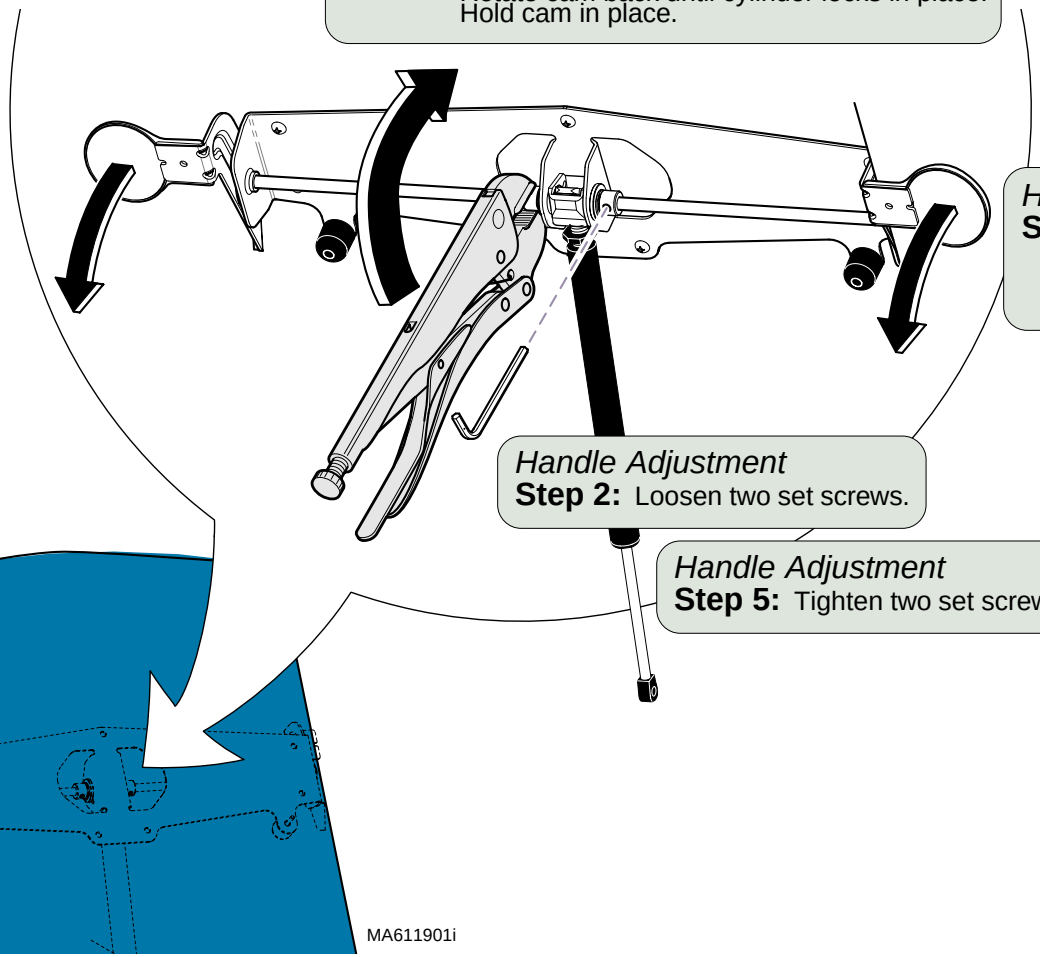
Replacement & Adjustment B-16

Exploded View / Part Numbers E-10

Handle Adjustment
Step 1: Raise back section.

Note: *If back section will not move, lift seat section then remove clevis pin from bottom of gas cylinder.*

Handle Adjustment
Step 3: Rotate cam until cylinder releases. Rotate cam back until cylinder locks in place. Hold cam in place.



Handle Adjustment
Step 4: Pivot handles down until they contact back section.

Note: *Cam should not move.*

Handle Adjustment
Step 2: Loosen two set screws.

Handle Adjustment
Step 5: Tighten two set screws.

MA611901i

This page applies to model numbers: ***222 / 622***

Back Release Mechanism

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Component Testing & Repair

Back Release Mechanism - continued

Gas Cylinder Replacement & Adjustment

Removal
Step 1: Lower back section all the way down.

Adjustment
Step 2: Tighten jam nut.

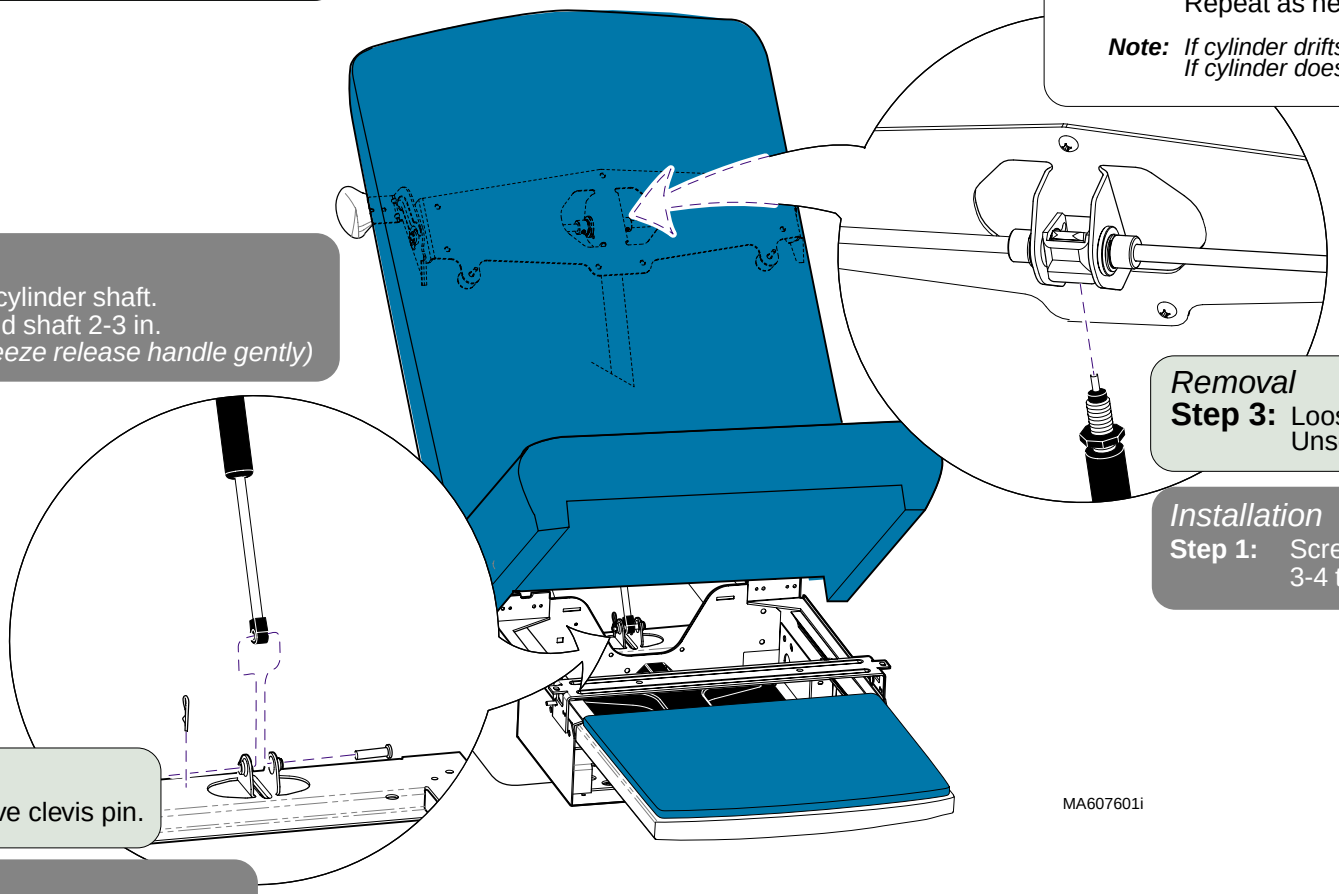
Adjustment
Step 1: Screw cylinder in/out one turn.
Check for proper operation.
Repeat as necessary.

Note: *If cylinder drifts, screw OUT.*
If cylinder does not release, screw IN.

Installation
Step 2: Hold cylinder shaft.
Extend shaft 2-3 in.
(Squeeze release handle gently)

Removal
Step 3: Loosen jam nut.
Unscrew cylinder.

Installation
Step 1: Screw cylinder in until
3-4 threads are exposed.



MA607601i

Removal
Step 2: Remove clevis pin.

Installation
Step 3: Install clevis pin.
Check for proper operation.
Adjust if necessary.

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Component Testing & Repair

Main PC Board

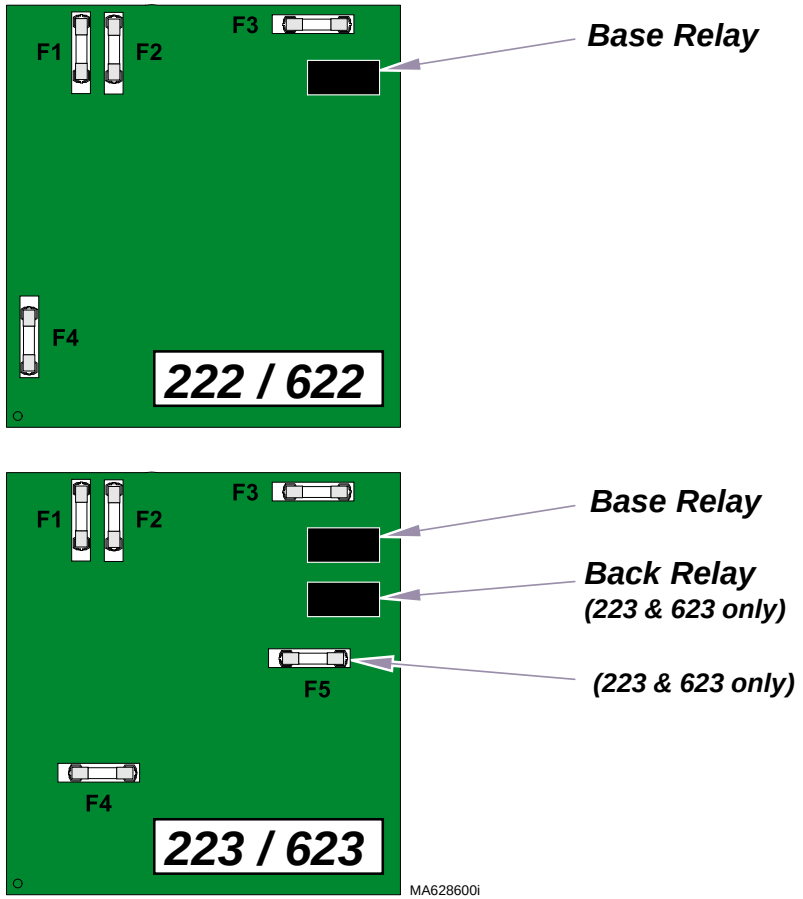
Main PC Board	Page
Base Relay Test	B-18
Back Relay Test	B-19
Replacement	B-20
Wiring Diagrams	D-1
Part Numbers	
222 / 622	E-22*
223 / 623	E-23

This illustration shows the location of the fuses on the Main PC Board.
Use the table below to determine the required action.

Problem	*Required Action*
Base actuator motor does not run.	Check fuses *(F1& F2, F3, F4)*. Perform ***Base Relay Test***
Back actuator motor does not run.	Check fuses *(F1& F2, F3, F5)*. Perform ***Back Relay Test***

- **222 / 622** ..... single function / one relay *(Base Relay)*
  Fuses:
  F1 & F2 ..... Primary Fuses *(affect all functions)*
  F3 ..... Base Motor Fuse *(affects Base Up / Down)*
  F4 ..... Transformer Fuse*(affects all functions)*

- **223 / 623** ..... dual function / two relays *(Base Relay & Back Relay)*
  Fuses:
  F1 & F2 ..... Primary Fuses *(affect all functions)*
  F3 ..... Base Motor Fuse *(affects Base Up / Down)*
  F4 ..... Transformer Fuse*(affects all functions)*
  F5 ..... Back Motor Fuse *(affects Back Up / Down)*



This page applies to model numbers: ***222 / 223 / 622 / 623***

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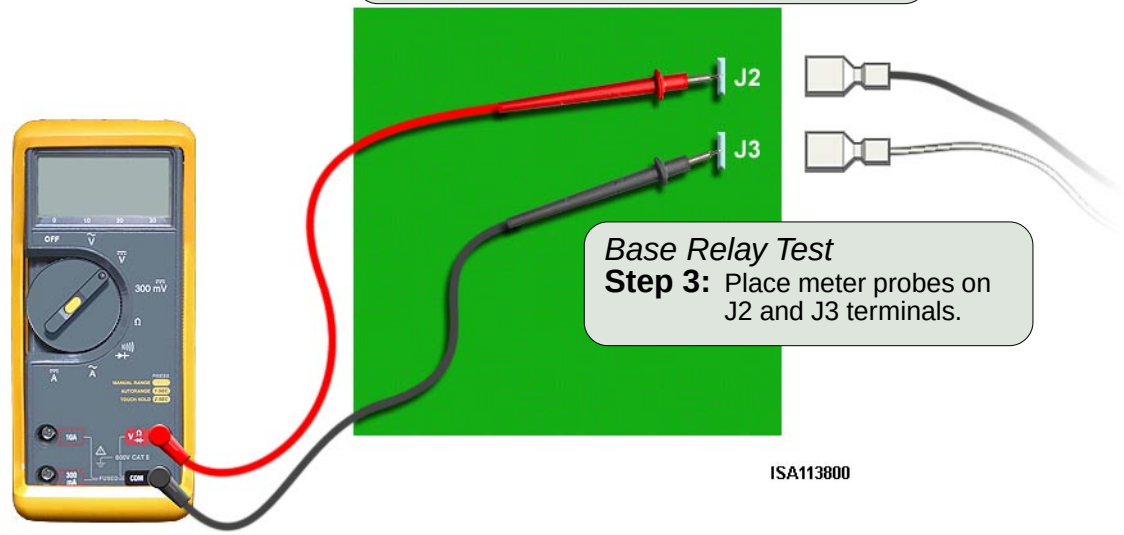
Component Testing & Repair

Main PC Board - *continued*

Base Relay Test

Base Relay Test
Step 1: Disconnect wires from J2 and J3 terminals on Main PC Board.

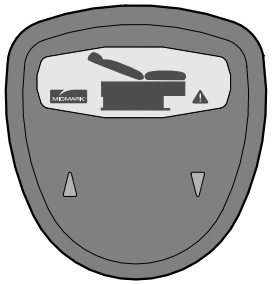
Note: *Refer to Main PC Board Replacement for access procedure.*



Base Relay Test
Step 2: Set meter to 200 VDC.

Base Relay Test
Step 3: Place meter probes on J2 and J3 terminals.

Base Relay Test
Step 4: Activate Base Up / Down function.



Meter Readng	*Status*	*Required Action*
approx. 48 VDC		PC Board is good. Perform next check.
0 VDC		Replace PC Board.

This page applies to model numbers: ***222 / 223 / 622 / 623***

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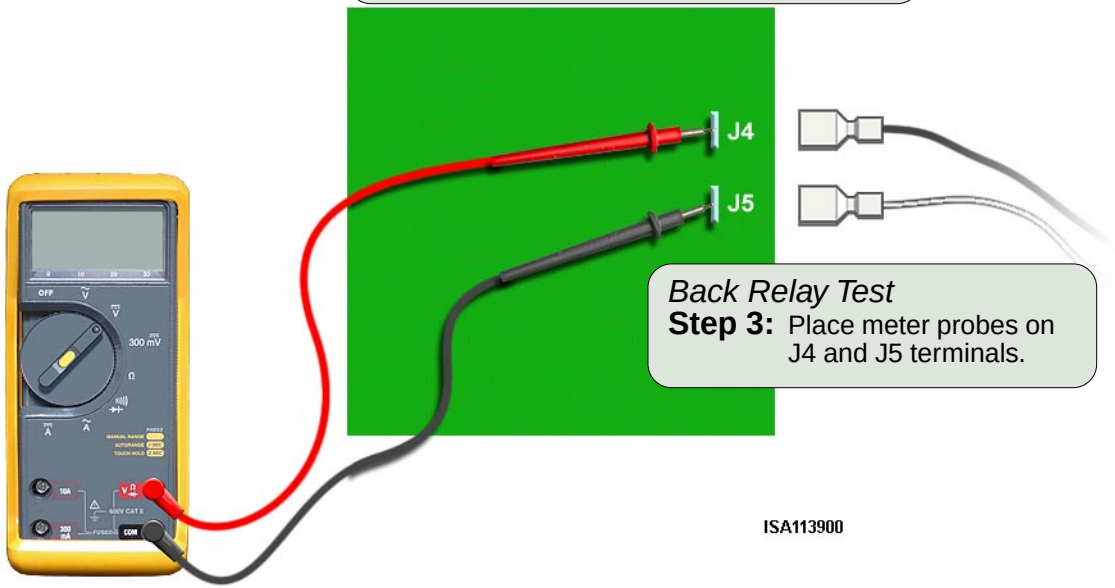
Component Testing & Repair

Main PC Board - *continued*

Back Relay Test

Back Relay Test
Step 1: Disconnect wires from J4 and J5 terminals on Main PC Board.

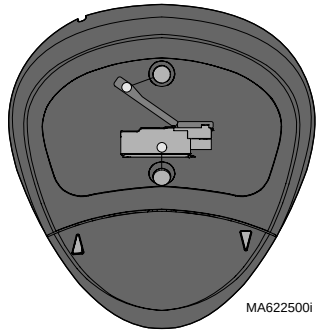
Note: *Refer to Main PC Board Replacement for access procedure.*



Back Relay Test
Step 2: Set meter to 200 VDC.

Back Relay Test
Step 3: Place meter probes on J4 and J5 terminals.

Back Relay Test
Step 4: Activate the Back Up / Down function.



Meter Readng	*Status*	*Required Action*
approx. 48 VDC		PC Board is good. Perform next check.
0 VDC		Replace PC Board.

This page applies to model numbers: ***223 / 623***

Main PC Board

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Component Testing & Repair

Main PC Board - *continued*

Replacement

Caution
Unplug power cord before removing PC Board cover.

Removal *(see Access Procedures)*
Step 1: Remove outer shrouds.

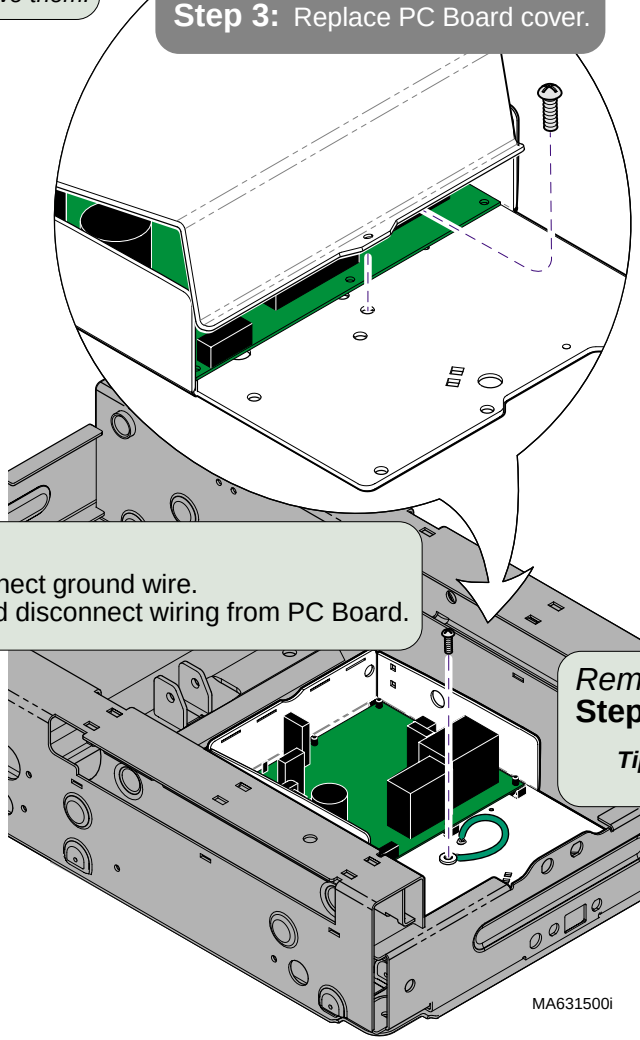
Note: *The inner and middle shrouds will drop down. It is not necessary to remove them.*

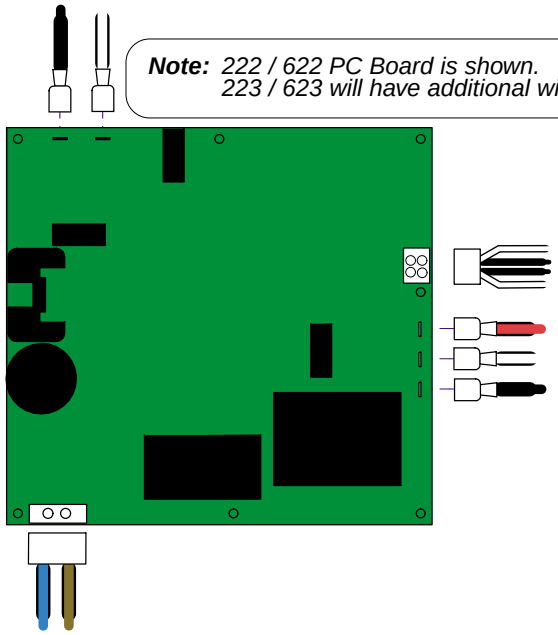
Removal
Step 2: Remove PC Board cover.

Installation *(see Access Procedures)*
Step 4: Replace outer shrouds.

Installation
Step 3: Replace PC Board cover.

Access Procedures **Page**
Table Shrouds
Removal / Installation C-2
Manually Raising / Lowering Table C-5





Note: *222 / 622 PC Board is shown. 223 / 623 will have additional wiring.*

Removal
Step 3: Disconnect ground wire.
Tag and disconnect wiring from PC Board.

Installation
Step 2: Connect ground wire.
Connect all wiring.

Removal
Step 4: Remove PC Board.

Tip: *Push latches back, then lift off of mounting studs.*

Installation
Step 1: Install PC Board.

MA631500i

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Component Testing & Repair

Drawer Heater System

Drawer Heater System	Page
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Heater Switch Test:	
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Wiring Diagrams	D-1
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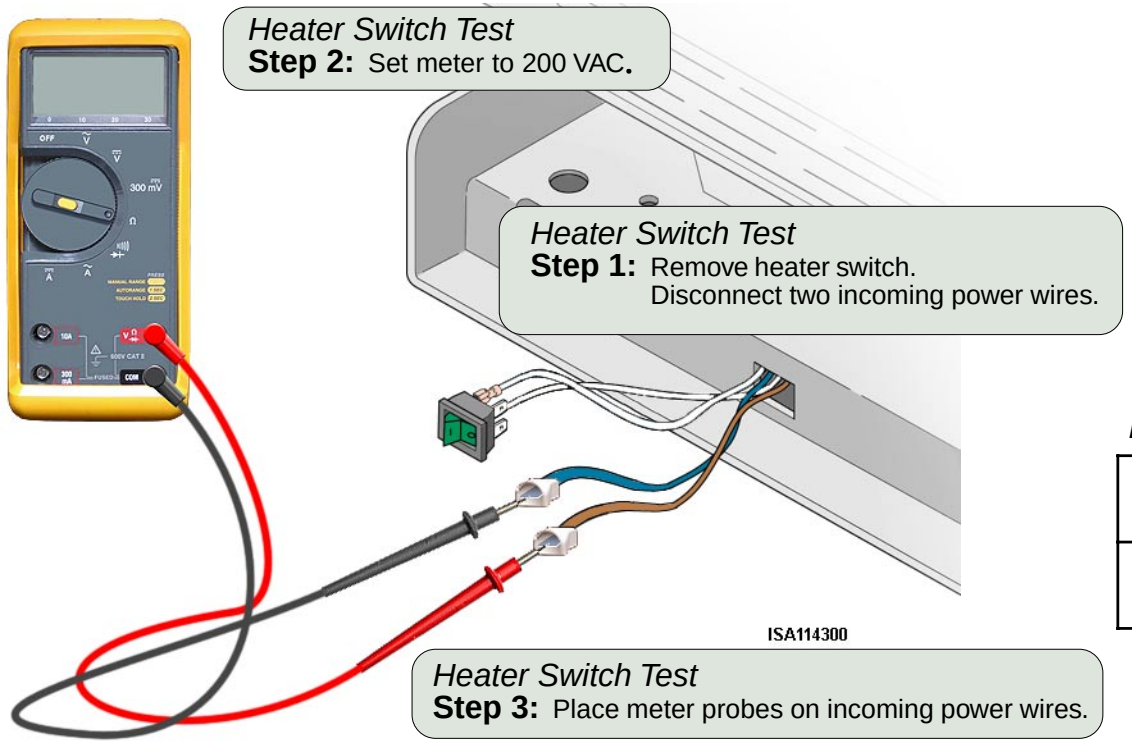
Use the table below to determine the required action.
[This table applies to all models (222 / 223 / 622 / 623)]

Problem	***Required Action***
Drawer heater does not warm up. Heater switch does not illuminate	Perform ***Heater Switch Test***
Drawer heater does not warm up. Heater switch illuminates.	Perform ***Heater Plate Test***
Drawer heater - OK Heater switch does not illuminate	Replace heater switch.

*Heater Switch Test - **222 / 223***


Heater Switch Test
Step 2: Set meter to 200 VAC.
Heater Switch Test
Step 1: Remove heater switch.
Disconnect two incoming power wires.
ISA114300
Heater Switch Test
Step 3: Place meter probes on incoming power wires.

Meter Readng	***Status***	***Required Action***
approx. **115 VAC**		Replace switch.
0 VAC		Switch OK. Check connections & fuses

This page applies to model numbers: ***222 / 223***

Drawer Heater System

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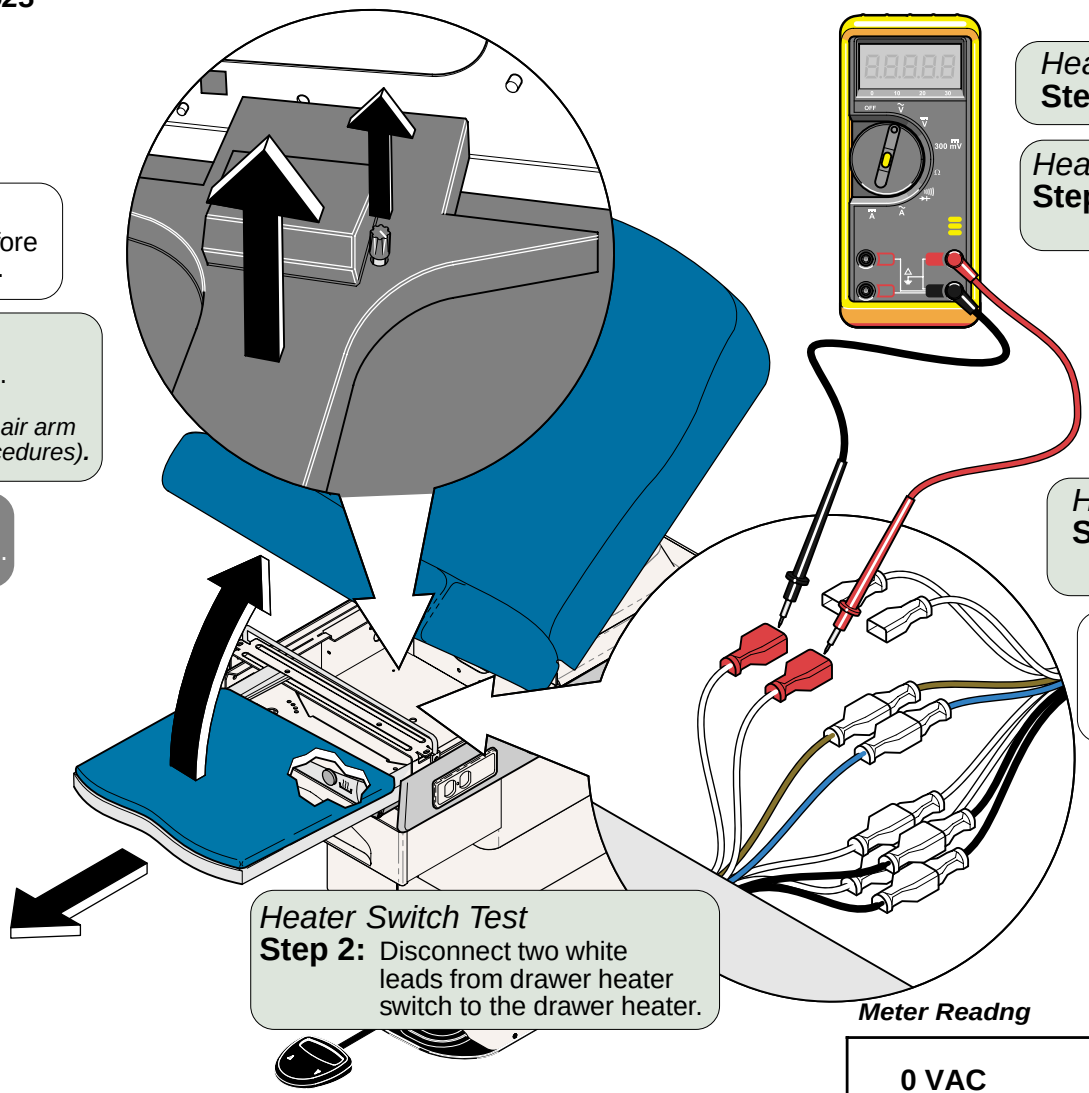
Component Testing & Repair

Drawer Heater System - *continued*

Access Procedures **Page**
Chair Arm Brace Removal C-8

Heater Switch Test - ***622 / 623***



Caution
Unplug power cord before removing stirrup guide.

Removal
Step 1: Remove stirrup guide.

Note: *If necessary, remove chair arm brace (see Access Procedures).*

Installation
Step 2: Replace stirrup guide.

Heater Switch Test
Step 2: Disconnect two white leads from drawer heater switch to the drawer heater.

Heater Switch Test
Step 3: Set meter to 200 VAC.

Heater Switch Test
Step 4: Place meter probes on two white leads *from* switch.

Heater Switch Test
Step 5: Plug in power cord, then depress switch to ON.

Caution
Unplug power cord before re-connecting electrical leads.

Installation
Step 1: Re-connect electrical leads.

Meter Readng	*Status*	*Required Action*
0 VAC		Replace switch.
approx. **115 VAC**		Switch OK. Check Heater Plate.

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Component Testing & Repair

Drawer Heater System - *continued*

Heater Switch Replacement - ***622 / 623***

(This procedure also applies to the upholstery heater switch)

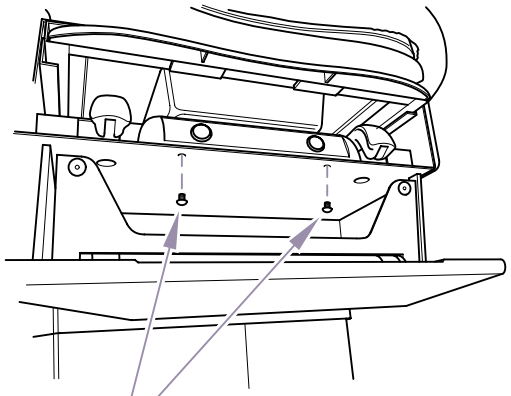
Access Procedures	Page
Chair Arm Brace Removal	C-8

Caution
Unplug power cord before removing stirrup guide.

Removal
Step 1: Remove stirrup guide.

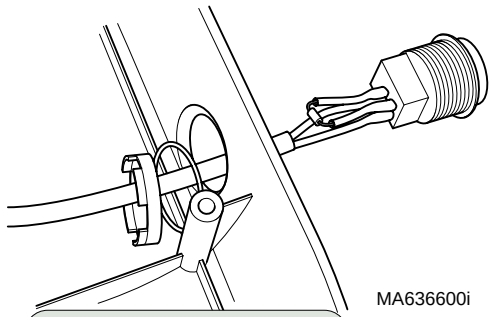
Note: *If necessary, remove chair arm brace (see Access Procedures).*

Installation
Step 4: Replace stirrup guide.



Removal
Step 3: Remove switch housing.

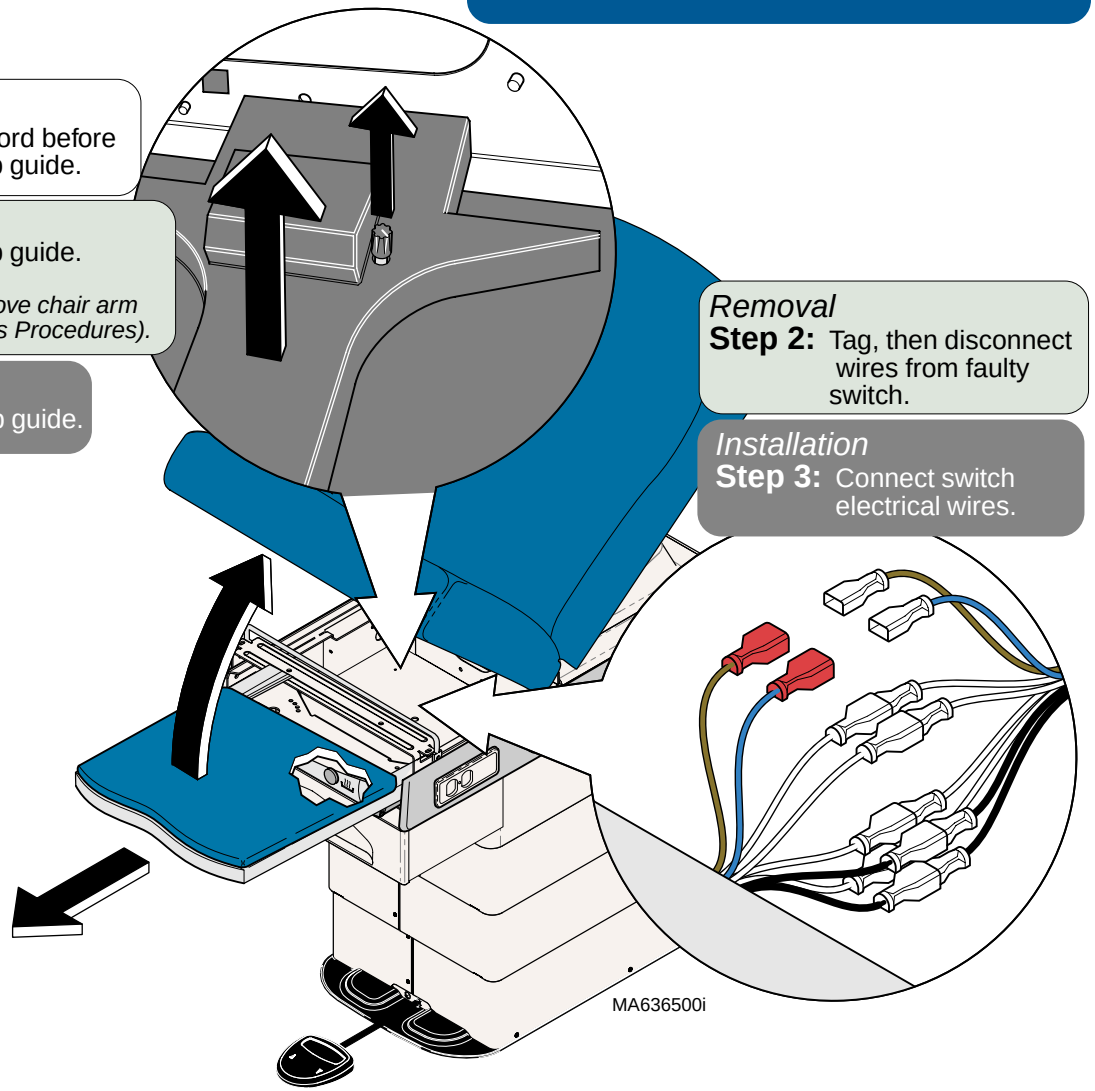
Installation
Step 2: Install switch housing.



MA636600i

Removal
Step 4: Remove switch assembly.

Installation
Step 1: Install switch assembly.



MA636500i

Removal
Step 2: Tag, then disconnect wires from faulty switch.

Installation
Step 3: Connect switch electrical wires.

This page applies to model numbers: ***622 / 623***

Drawer Heater System

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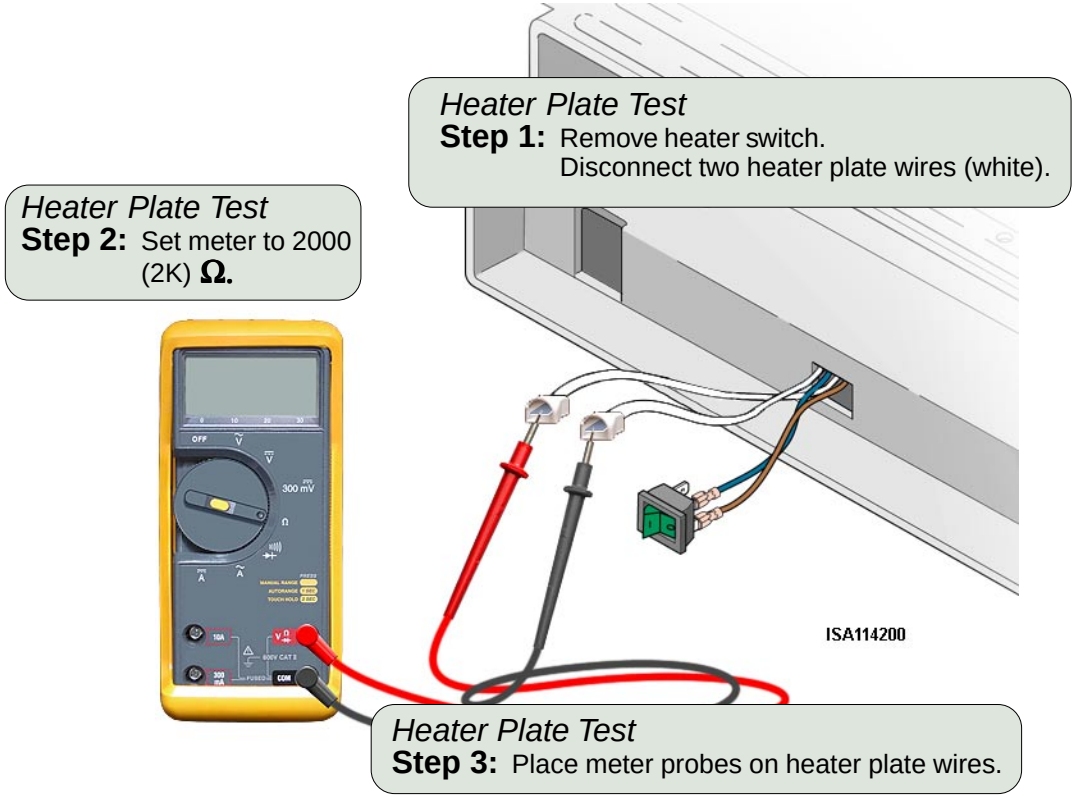
Component Testing & Repair

Drawer Heater System - continued

*Heater Plate Test -**222 / 223***


Heater Plate Test
Step 1: Remove heater switch.
Disconnect two heater plate wires (white).
Heater Plate Test
Step 2: Set meter to 2000 (2K) Ω.
ISA114200
Heater Plate Test
Step 3: Place meter probes on heater plate wires.

Meter Readng	*Status*	*Required Action*
approx. 360 Ω		Heater plate is good.
0 Ω		Replace heater plate.

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Component Testing & Repair

Drawer Heater System - *continued*

*Heater Plate Test -**622 / 623***

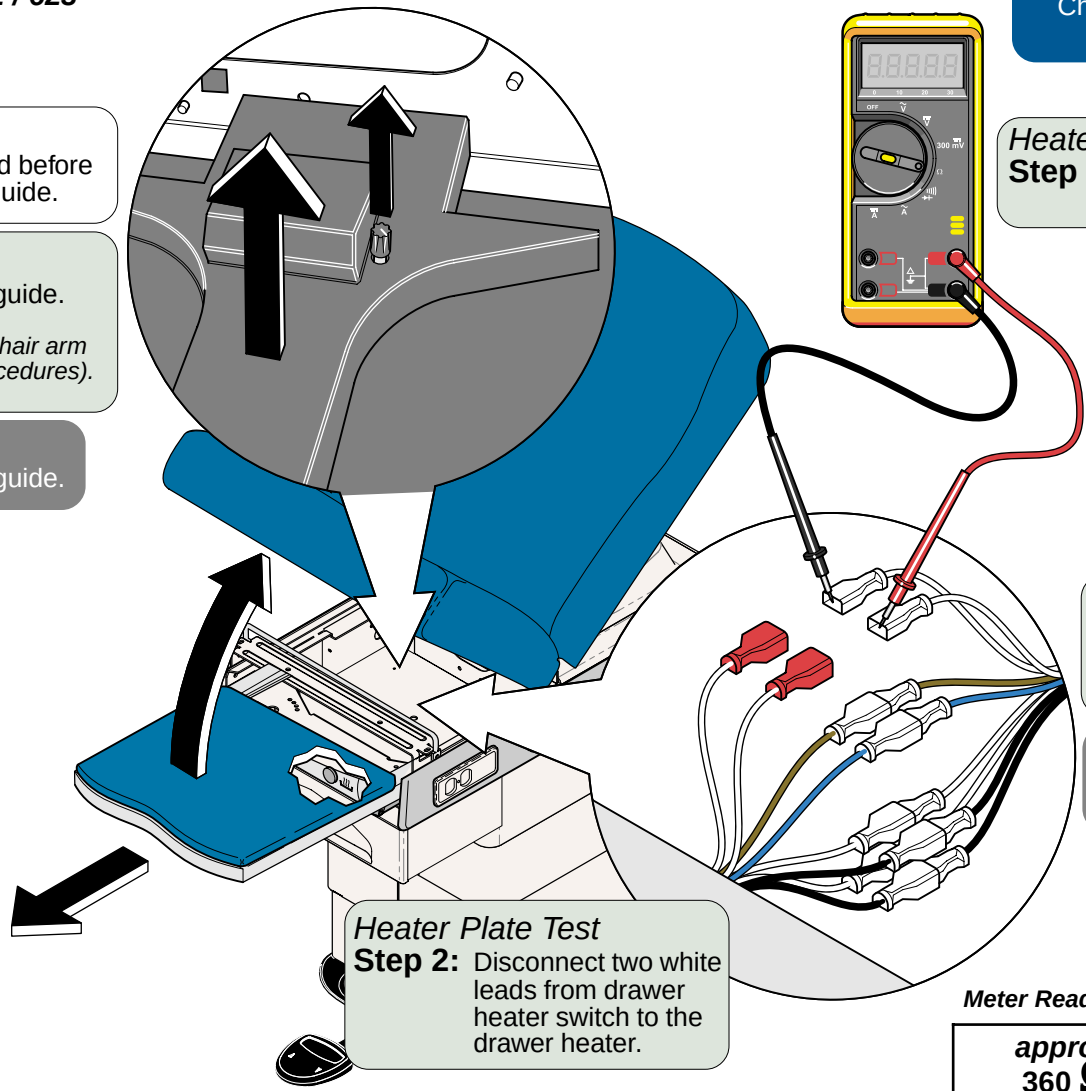
Access Procedures	Page
Chair Arm Brace Removal	C-8

Caution
Unplug power cord before removing stirrup guide.

Removal
Step 1: Remove stirrup guide.

Note: *If necessary, remove chair arm brace (see Access Procedures).*

Installation
Step 2: Replace stirrup guide.



Heater Plate Test
Step 3: Set meter to 2000 (2K) **Ω.**

Heater Plate Test
Step 4: Place meter probes on terminals of heater plate wires.

Installation
Step 1: Re-connect electrical leads.

Heater Plate Test
Step 2: Disconnect two white leads from drawer heater switch to the drawer heater.

Meter Readng	*Status*	*Required Action*
***approx.* 360 Ω**		Heater plate is good. Perform next check.
***0* Ω**		Replace heater plate.

This page applies to model numbers: ***622 / 623***

Drawer Heater System

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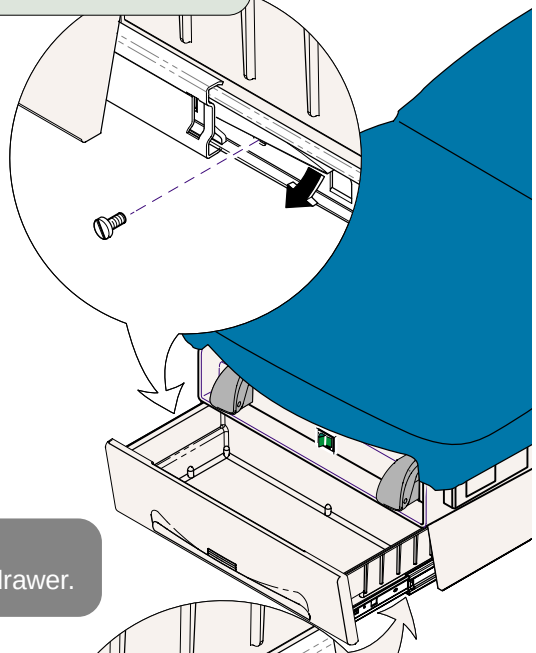
Component Testing & Repair

Drawer Heater System - continued

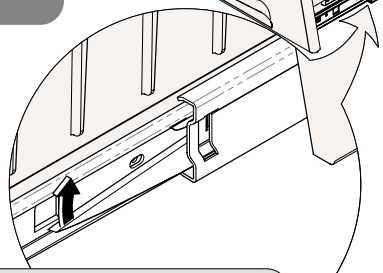
Heater Plate Replacement

Removal
Step 1: Remove screw(s) from drawer slides.

Installation
Step 3: Install screw.



Installation
Step 3: Install drawer.



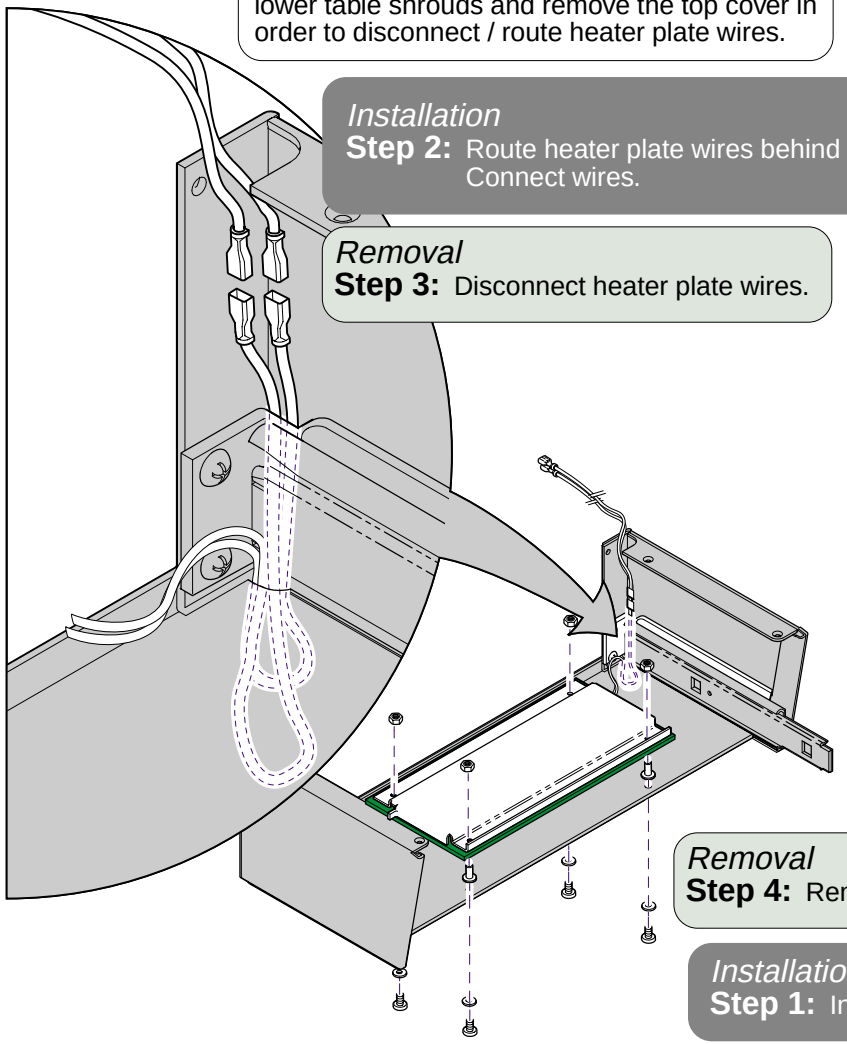
Removal
Step 2: Push LH slide lever UP and RH lever DOWN. Remove drawer.

Note: *Slide levers are clear plastic.*

Attention
If there is not a wire connection here, you must lower table shrouds and remove the top cover in order to disconnect / route heater plate wires.

Installation
Step 2: Route heater plate wires behind slide. Connect wires.

Removal
Step 3: Disconnect heater plate wires.



Removal
Step 4: Remove heater plate.

Installation
Step 1: Install heater plate.

MA633800i

Drawer Heater System

This page applies to model numbers: ***222 / 223 / 622 / 623***

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Component Testing & Repair

Upholstery Heater System

Use the table below to determine the required action.

Problem	*Required Action*
Upholstery heater does not warm up. Heater switch does not illuminate	Perform ***Upholstery PC Board Test***
Upholstery heater does not warm up. Heater switch illuminates.	Perform ***Upholstery Heater Test***
Upholstery heater - OK Heater switch does not illuminate	Replace heater switch.

Upholstery Heater System **Page**

Upholstery Heater PC Board Test:
- *Checking Output Voltage* B-27
- *Checking Supply Voltage* B-28

PC Board Replacement B-29
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Upholstery Heater Switch Test B-31
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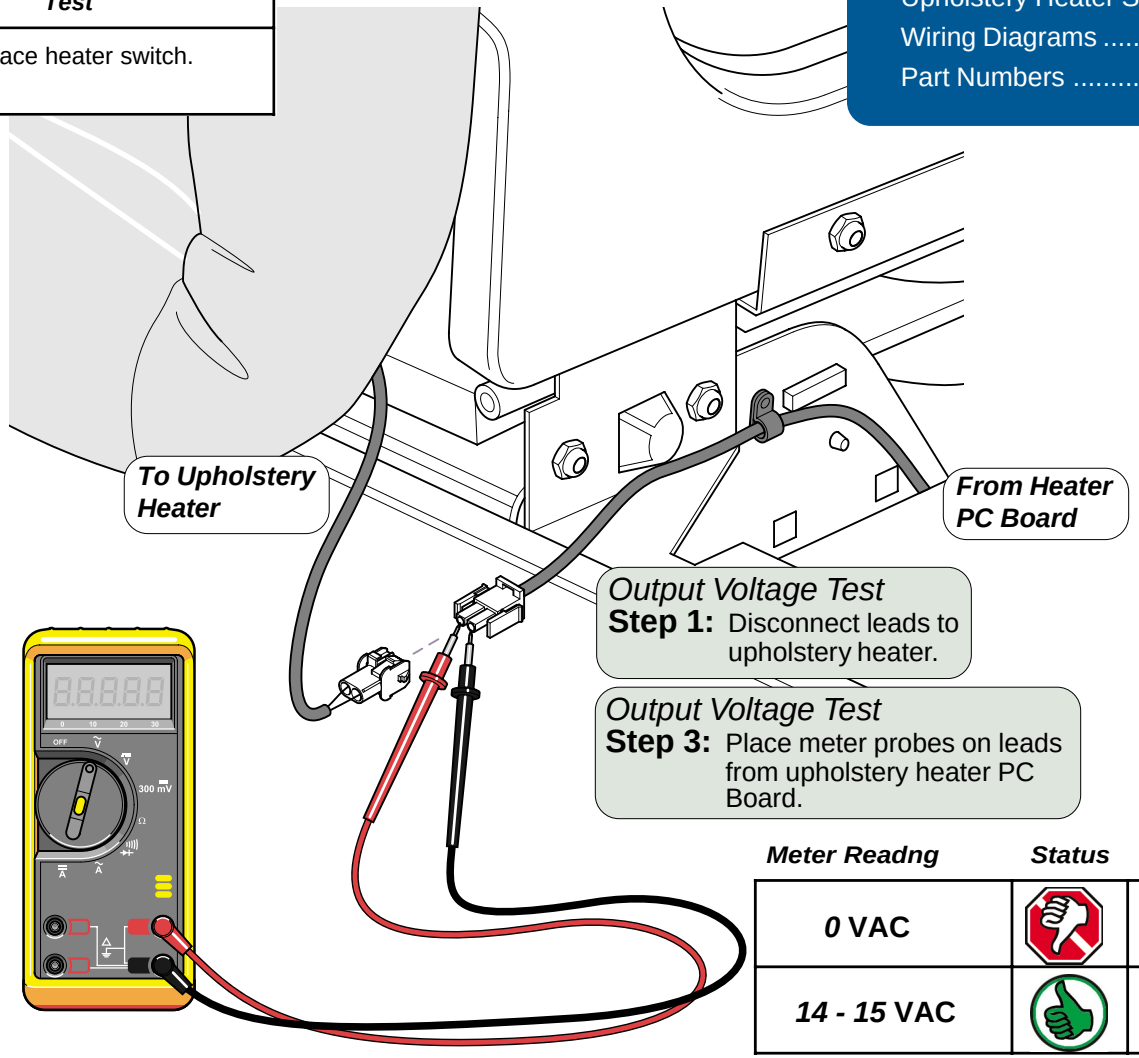
Upholstery Heater PC Board Test

(Checking Output Voltage)


To Upholstery Heater
From Heater PC Board
Output Voltage Test
Step 1: Disconnect leads to upholstery heater.
Output Voltage Test
Step 3: Place meter probes on leads from upholstery heater PC Board.
Output Voltage Test
Step 2: Set meter to 20 VAC.
Output Voltage Test
Step 4: Press Upholstery (Green) Heater switch ON.

Meter Readng	*Status*	*Required Action*
***0* VAC**		Check supply voltage to heater PC board.
***14 - 15* VAC**		Check upholstery heater.

This page applies to model numbers: ***622 / 623***

Upholstery Heater System

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Component Testing & Repair

Upholstery Heater System - *continued*

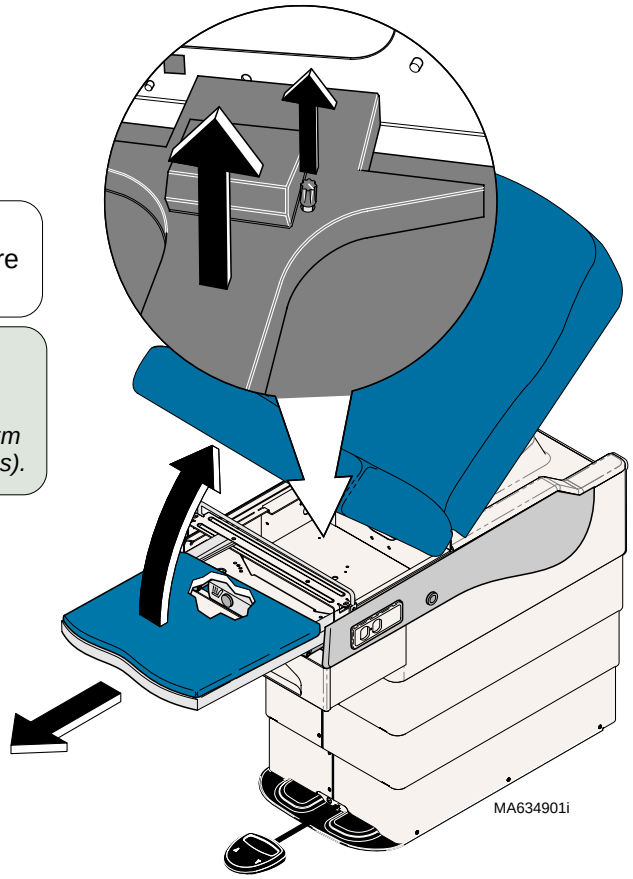
Upholstery Heater PC Board Test - continued

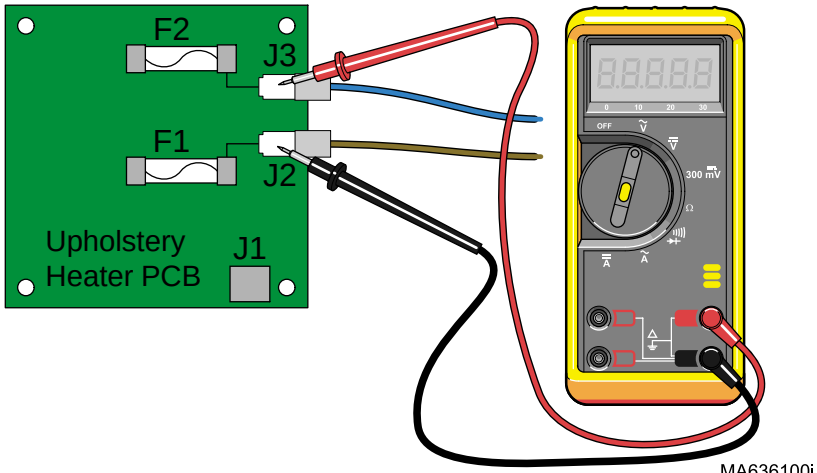
(Checking Supply Voltage)

Caution
Unplug power cord before removing stirrup guide.

Supply Voltage Test
Step 1: Remove stirrup guide.

Note: *If necessary, remove chair arm brace (see Access Procedures).*





Supply Voltage Test
Step 2: Set meter to 200 VAC.

Supply Voltage Test
Step 3: Place meter probes on J2 & J3 of Upholstery Heater PCB and plug table into outlet.

Meter Readng	*Status*	*Required Action*
0 **VAC**		Check incoming power source to table.
115 **VAC**		Check connections & F1 / F2 fuses on PCB.

This page applies to model numbers: ***622 / 623***

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Component Testing & Repair

Upholstery Heater System - *continued*

Upholstery Heater PC Board Replacement

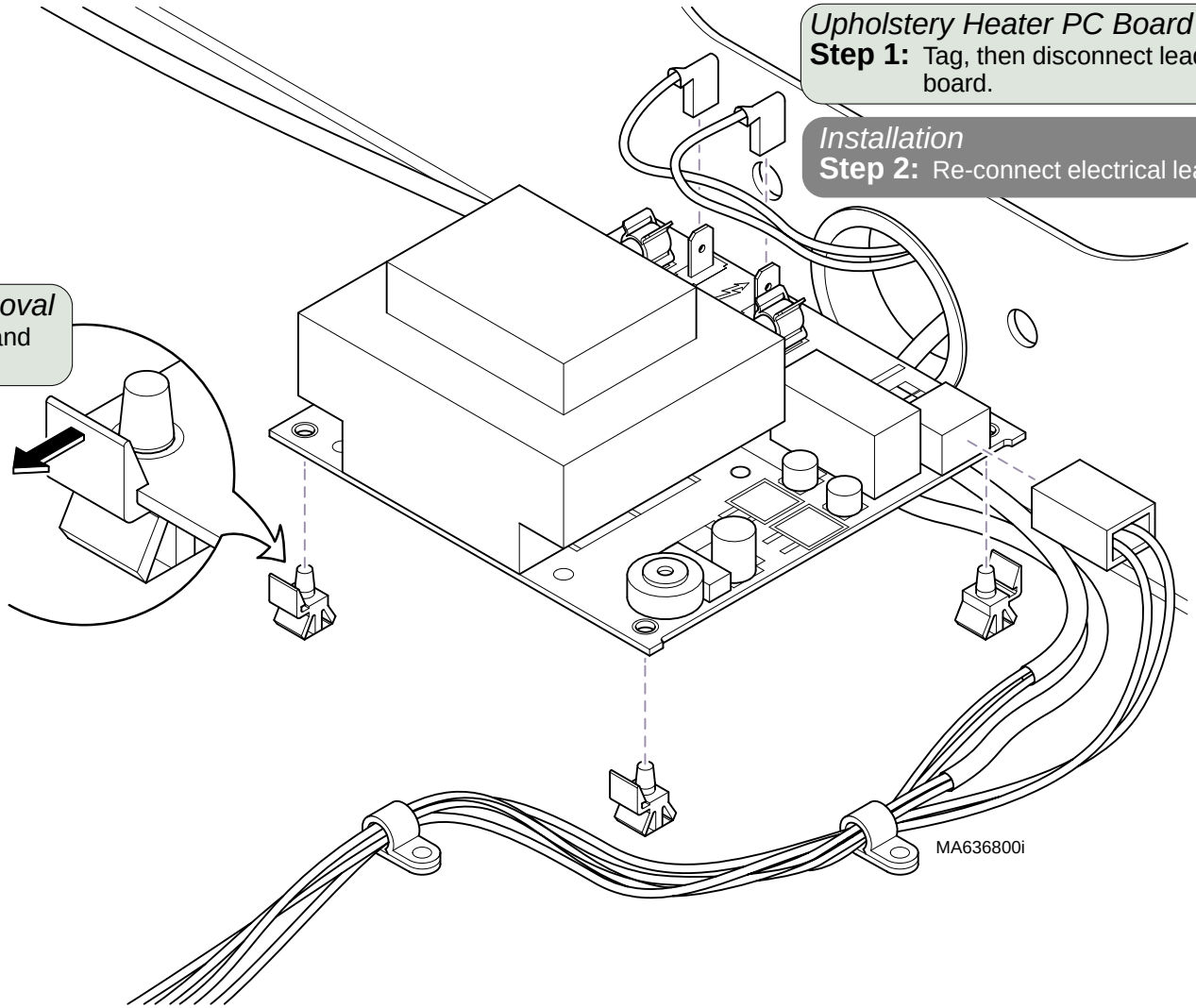
Caution
Unplug power cord before removing PC Board cover.

Upholstery Heater PC Board Removal
Step 1: Tag, then disconnect leads to PC board.

Installation
Step 2: Re-connect electrical leads.

Upholstery Heater PC Board Removal
Step 2: Depress release on standoffs and remove PC Board.

Installation
Step 1: Replace PC Board.



This page applies to model numbers: ***622 / 623***

Upholstery Heater System

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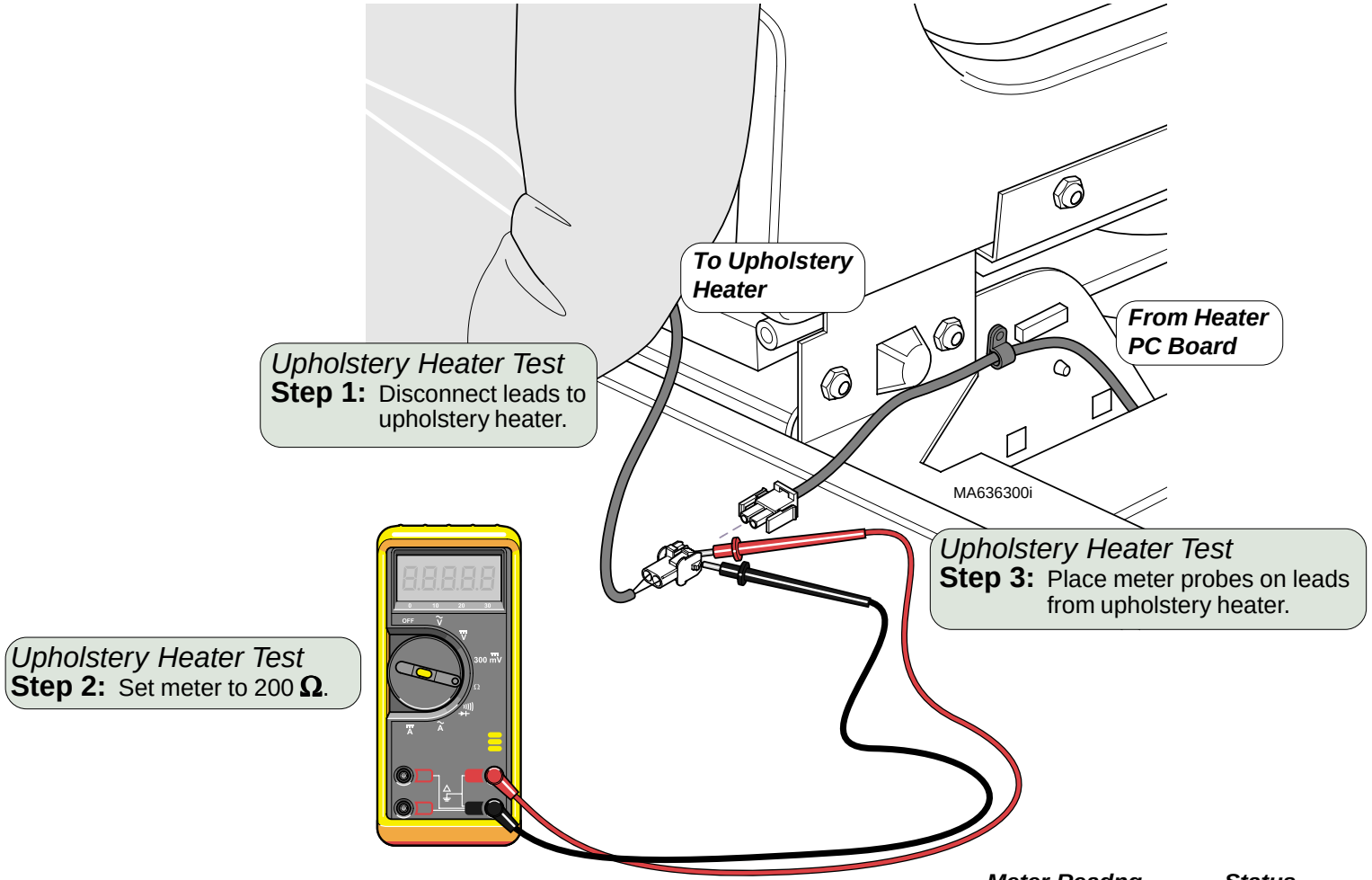
Component Testing & Repair

Upholstery Heater System - continued

Upholstery Heater Test


To Upholstery Heater
From Heater PC Board
Upholstery Heater Test
Step 1: Disconnect leads to upholstery heater.
MA636300i
Upholstery Heater Test
Step 3: Place meter probes on leads from upholstery heater.
Upholstery Heater Test
Step 2: Set meter to 200 Ω.

Meter Readng	*Status*	*Required Action*
0 Ω		Replace Upholstery
3 - 4 Ω		Check Upholstery Heater Switch.

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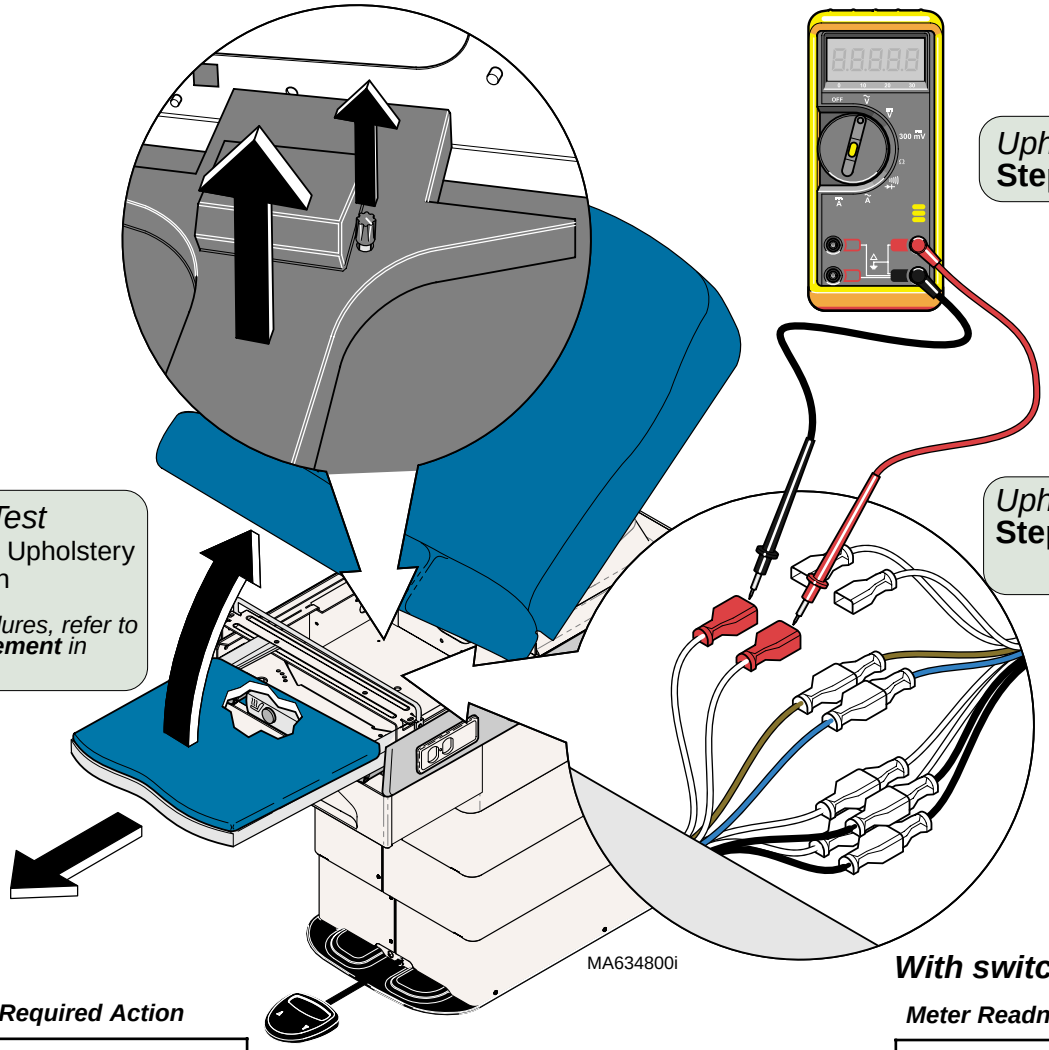
Component Testing & Repair

Upholstery Heater System - *continued*

Upholstery Heater SwitchTest



Upholstery Heater SwitchTest
Step 1: Set meter to 200 **Ω.**

Upholstery Heater SwitchTest
Step 2: Disconnect Black leads from Switch and insert meter probes.

Upholstery Heater SwitchTest
Step 3: Depress & hold in the Upholstery Heater (Green) Switch

Note: *For replacement procedures, refer to* ***Heater Switch Replacement*** *in Drawer Heater System*

With switch 'tripped'...

Meter Readng	*Status*	*Required Action*
Any resistance reading		Switch is good. Perform next check.
OL		Replace switch

With switch 'untripped'...

Meter Readng	*Status*	*Required Action*
Any resistance reading		Replace switch.
OL		Switch is good. Perform next check.

This page applies to model numbers: ***622 / 623***

Upholstery Heater System

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Section C

Access Procedures

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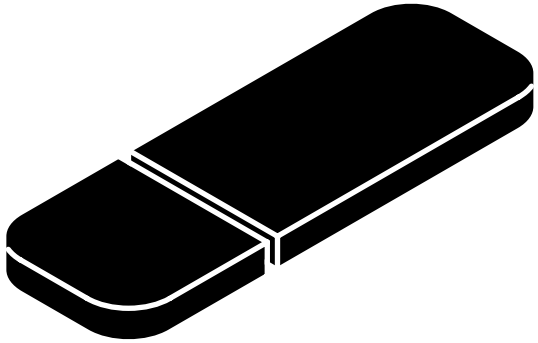
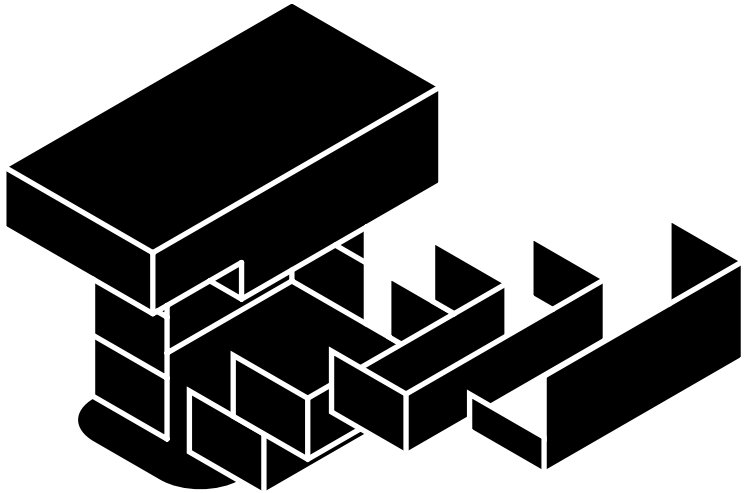




Access Procedures

Table Shrouds

Note
Remove all accessories (chair arms, storage pod, etc.) before perofrming this procedure.

Removal
Step 1: Remove screw(s) from drawer slides.

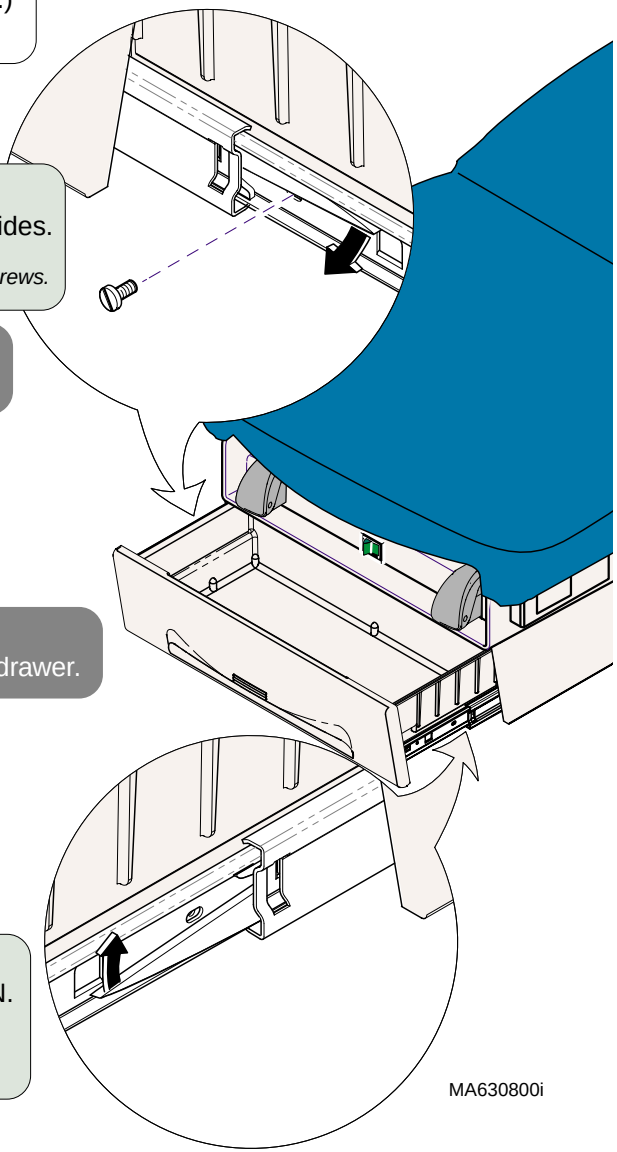
Note: *Tables w/o drawer heater do not have screws.*

Installation
Step 7: Install screw(s) in drawer slides.

Installation
Step 6: Install drawer.

Removal
Step 2: Push LH slide lever UP and RH lever DOWN. Remove drawer.

Note: *Slide levers are clear plastic.*



MA630800i

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Exploded Views / Part Numbers E-1

This page applies to model numbers: ***222 / 223 / 622 / 623***

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Access Procedures

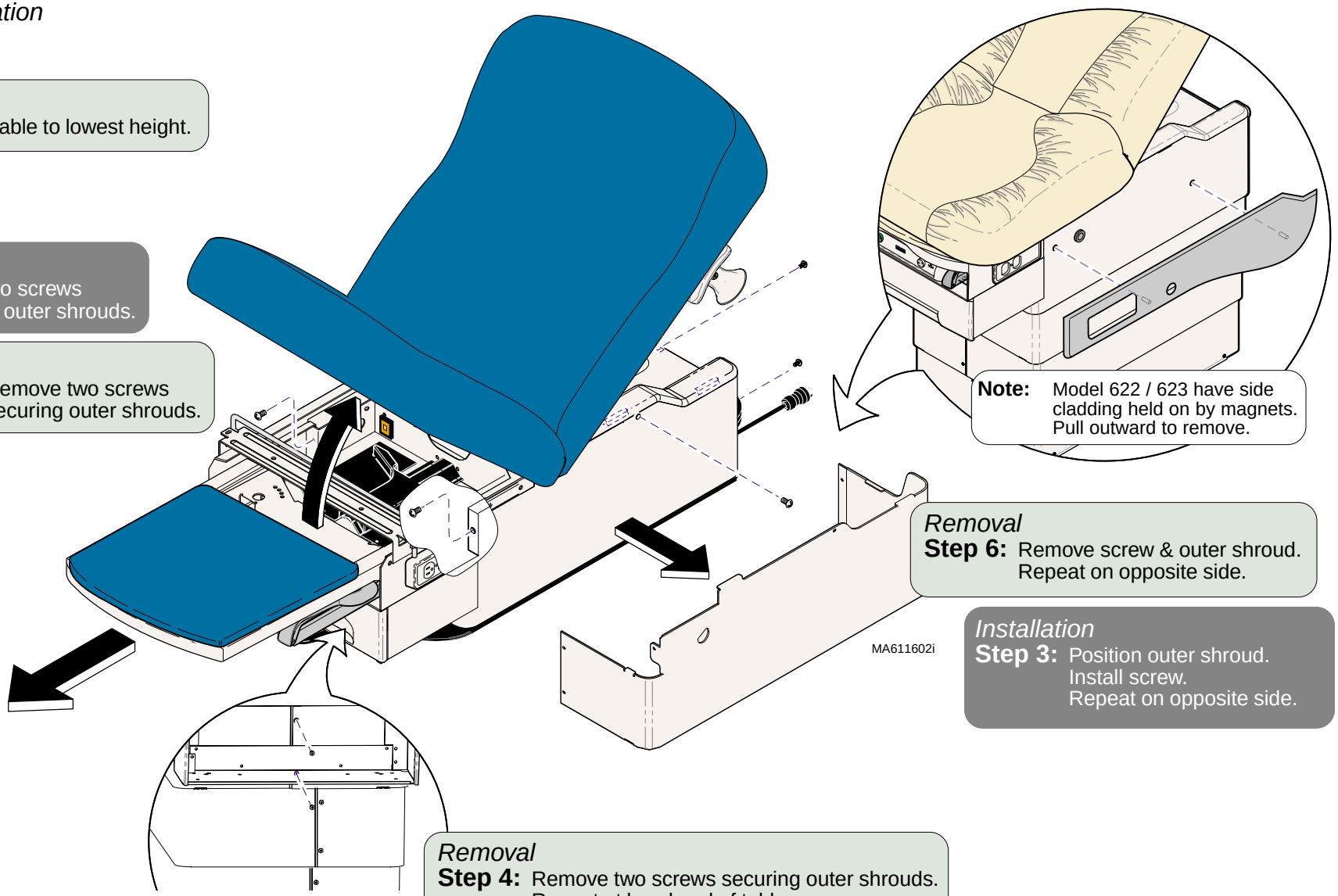
Table Shrouds - *continued*

Removal / Installation

Removal
Step 3: Lower table to lowest height.

Installation
Step 5: Install two screws securing outer shrouds.

Removal
Step 5: Remove two screws securing outer shrouds.



Note: Model 622 / 623 have side cladding held on by magnets. Pull outward to remove.

Removal
Step 6: Remove screw & outer shroud. Repeat on opposite side.

Installation
Step 3: Position outer shroud. Install screw. Repeat on opposite side.

Removal
Step 4: Remove two screws securing outer shrouds. Repeat at head end of table.

Installation
Step 4: Install two screws securing outer shrouds. Repeat at head end of table.

This page applies to model numbers: ***222 / 223 / 622 / 623***

Table Shrouds

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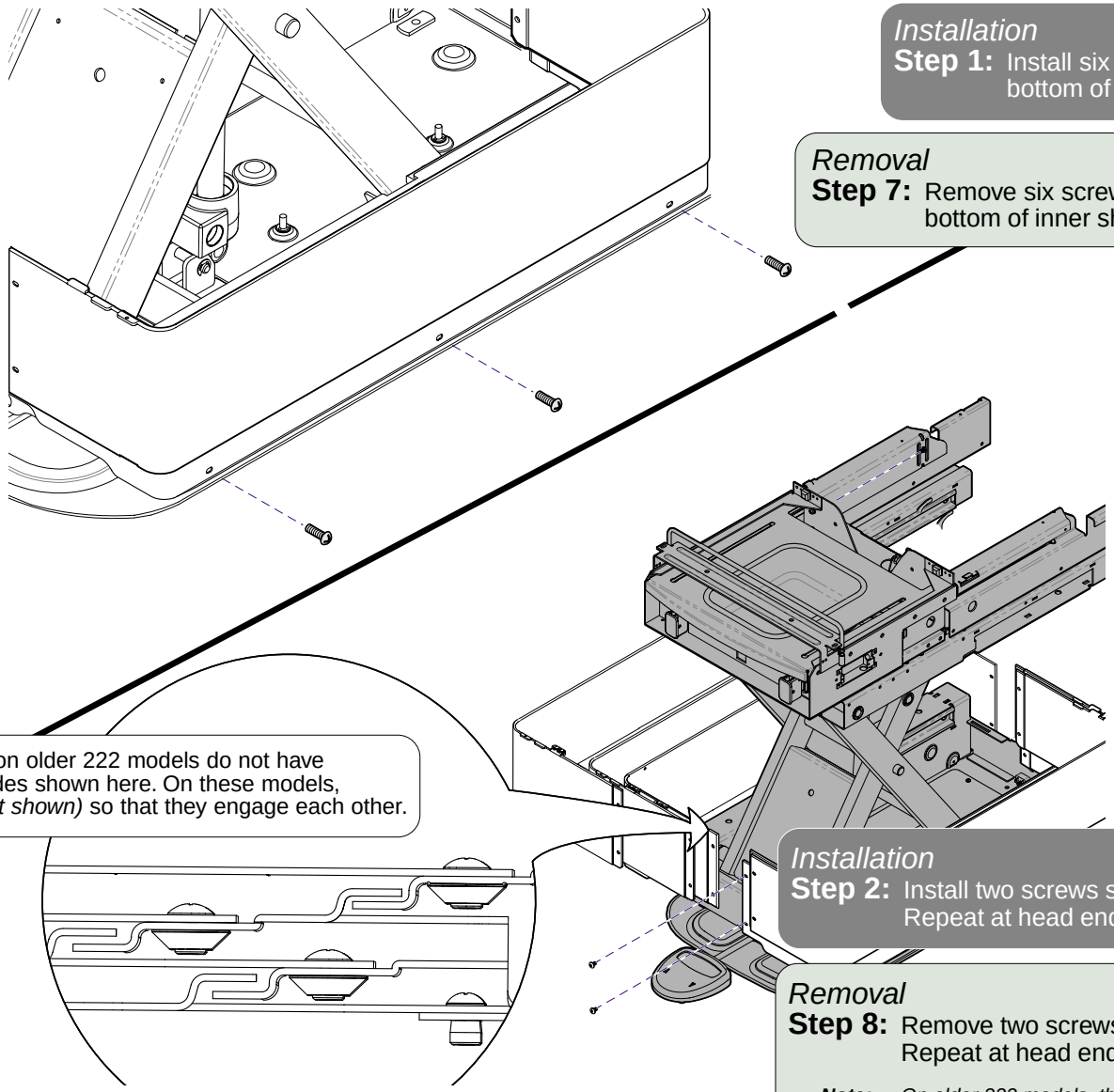
Access Procedures

Table Shrouds - *continued*

Removal / Installation



Installation
Step 1: Install six screws securing bottom of inner shrouds.

Removal
Step 7: Remove six screws securing bottom of inner shrouds.

Note: The shrouds on older 222 models do not have the offset guides shown here. On these models, align tabs *(not shown)* so that they engage each other.

Installation
Step 2: Install two screws securing each set of shrouds. Repeat at head end of table.

Removal
Step 8: Remove two screws securing each set of shrouds. Repeat at head end of table.

Note: *On older 222 models, there is a wire connecting the shrouds. This must remain in place to ensure proper grounding.*

Table Shrouds

This page applies to model numbers: ***222 / 223 / 622 / 623***

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Access Procedures

Manually Raising / Lowering Table

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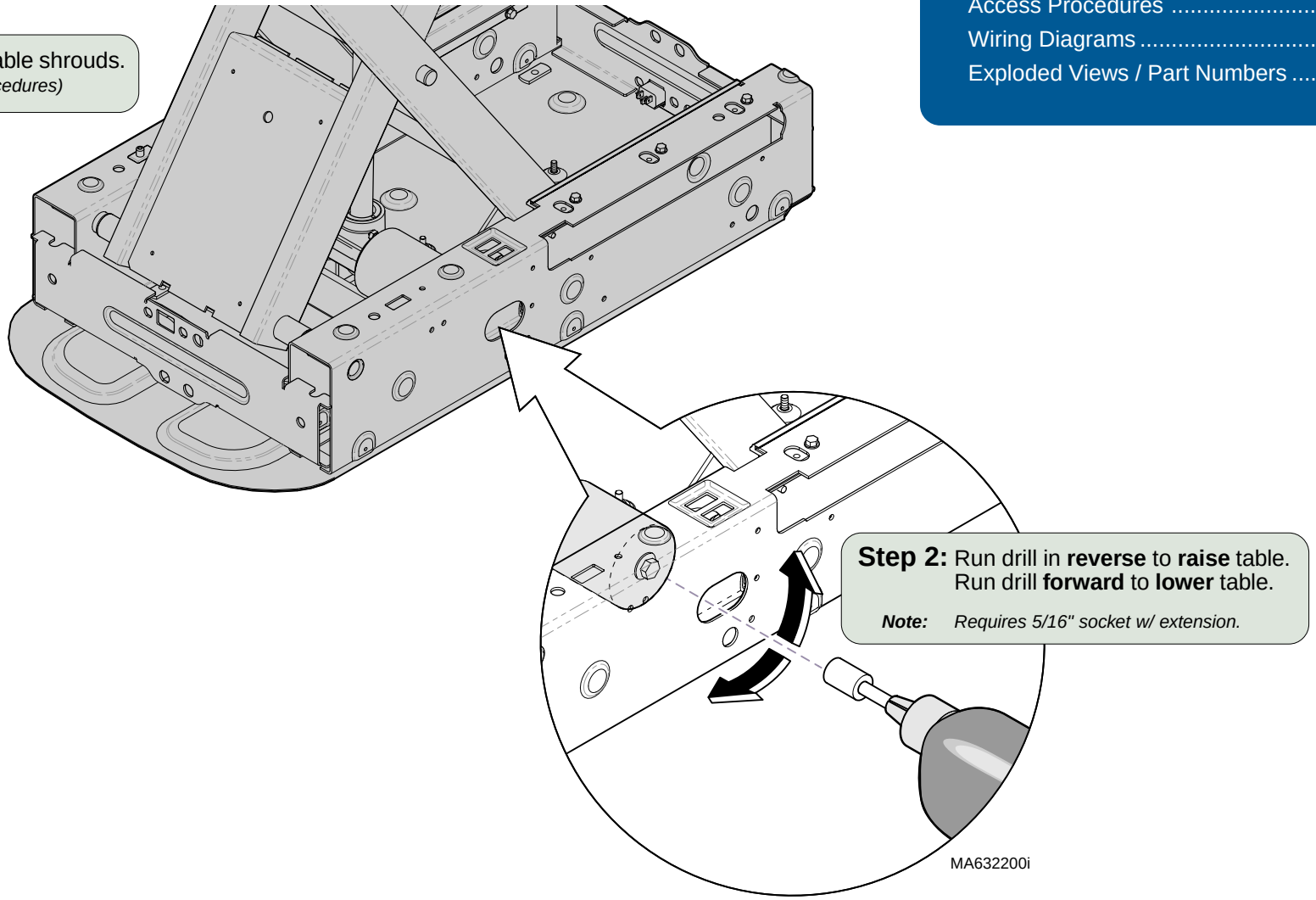
Step 1: Remove table shrouds.
(Access Procedures)



Step 2: Run drill in **reverse** to **raise** table.
Run drill **forward** to **lower** table.

Note: *Requires 5/16" socket w/ extension.*

MA632200i

This page applies to model numbers: ***222 / 223 / 622 / 623***

Manually Raising / Lowering

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Access Procedures

Upholstered Top

Removal / Installation *(Standard / Cut & Sewn Top shown)*

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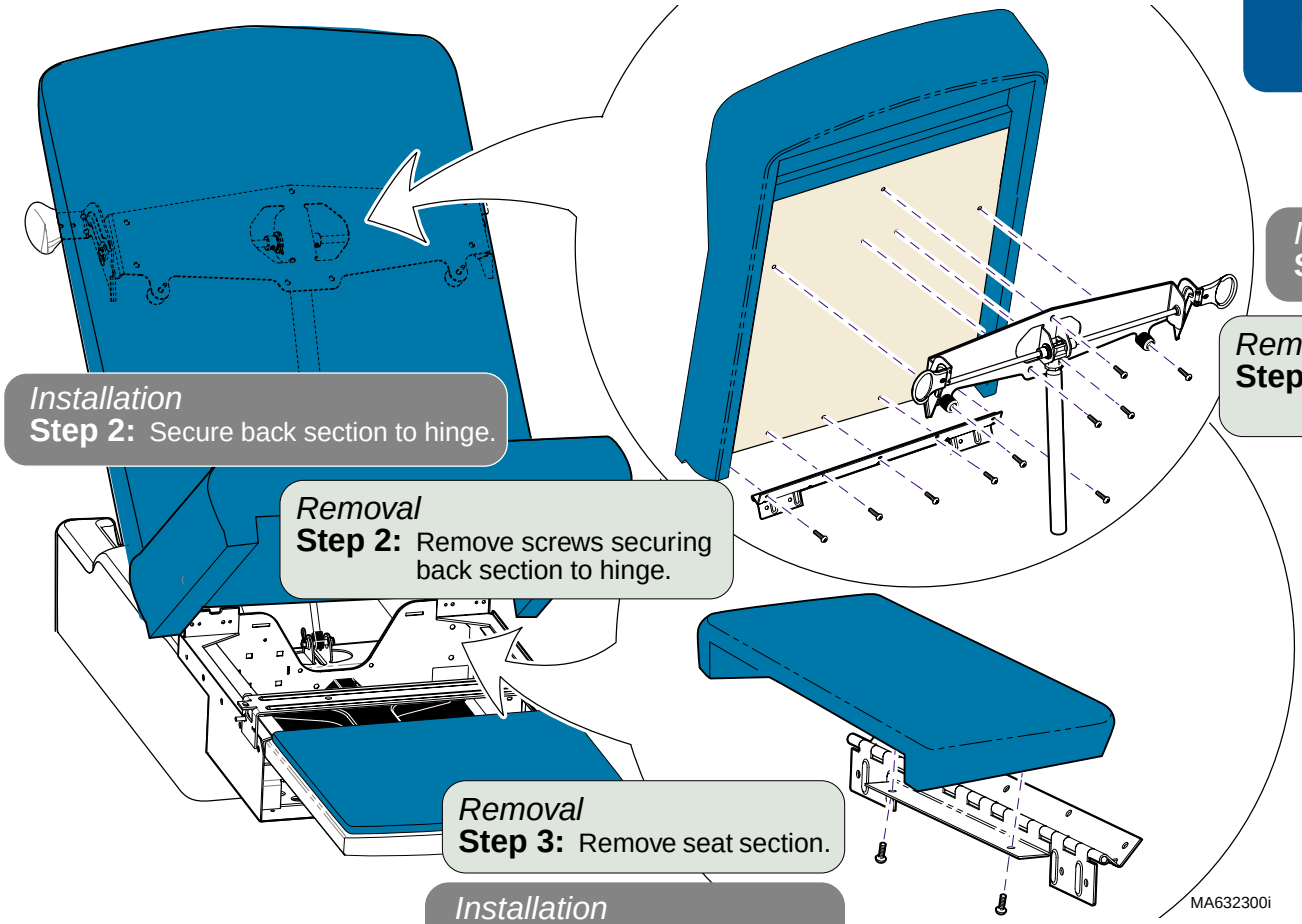
Attention
Seamless / Styled tops are one piece.
The replacment procedure is similar.

Caution
Hold back section place when performing steps 1 & 2.



Installation
Step 3: Secure back release bracket.

Removal
Step 1: Remove screws securing back release bracket.

Installation
Step 2: Secure back section to hinge.

Removal
Step 2: Remove screws securing back section to hinge.

Removal
Step 3: Remove seat section.

Installation
Step 1: Secure seat section.

Upholstered Top

This page applies to model numbers: ***222 / 223***

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Access Procedures

Upholstered Top

Removal / Installation *(Premimum Top shown)*

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Exploded Views / Part Numbers E-1

Removal
Step 3: Lift back section to disengage velcro, then push toward head end.

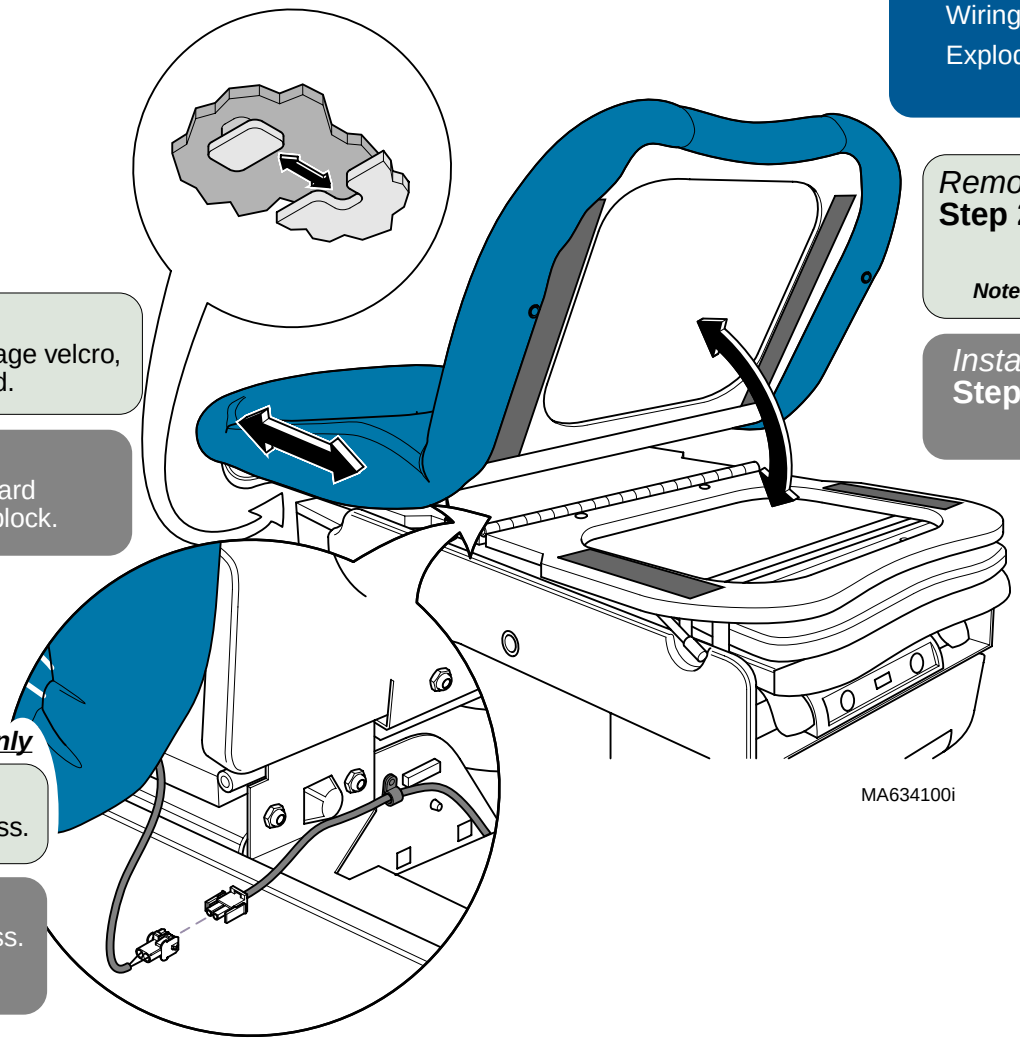
Installation
Step 1: Slide back section toward foot end to engage T-block.

Models w/ upholstery heater only

Removal
Step 1: Disconnect wire harness.

Installation
Step 3: Connect wire harness.

Note: *Do not pinch wire.*



MA634100i

Removal
Step 2: Hold mounting frame in place, then lift seat section.

Note: *Upholstery is secured with velcro.*

Installation
Step 2: Lower seat section and press down firmly to engage velcro.

This page applies to model numbers: ***622 / 623***

Upholstered Top

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Access Procedures

Chair Arms / Brace

Removal

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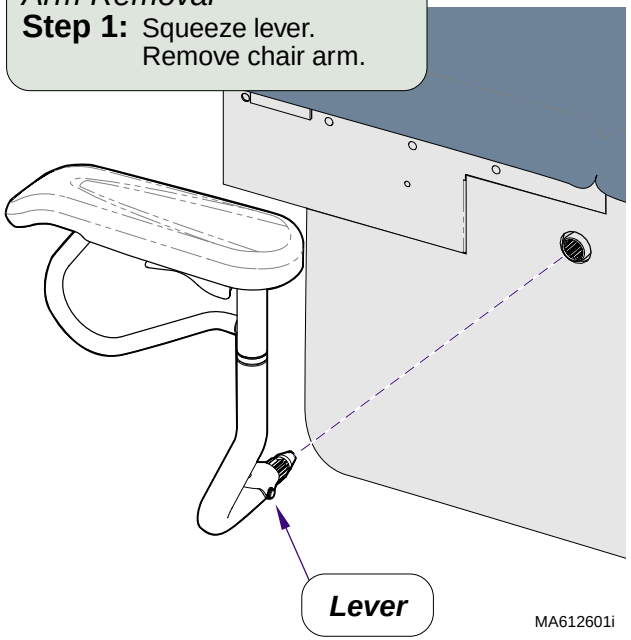
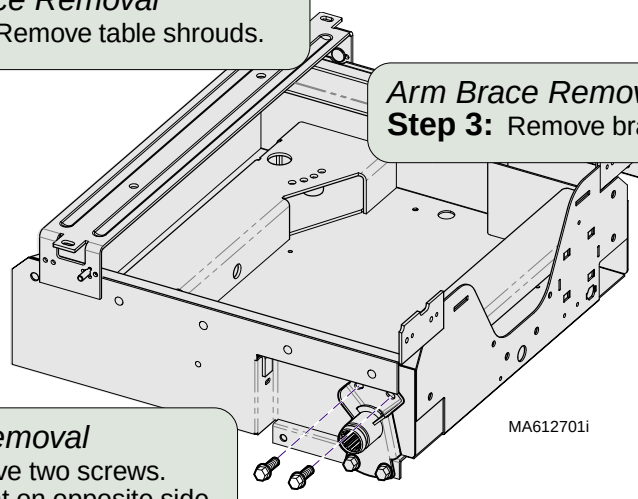
Arm Removal
Step 1: Squeeze lever.
Remove chair arm.



It may be necessary to remove the chair arm brace when performing certain procedures.

Arm Brace Removal
Step 1: Remove table shrouds.

Arm Brace Removal
Step 3: Remove brace.



Arm Brace Removal
Step 2: Remove two screws.
Repeat on opposite side.

This page applies to model numbers: ***222 / 223 / 622 / 623***

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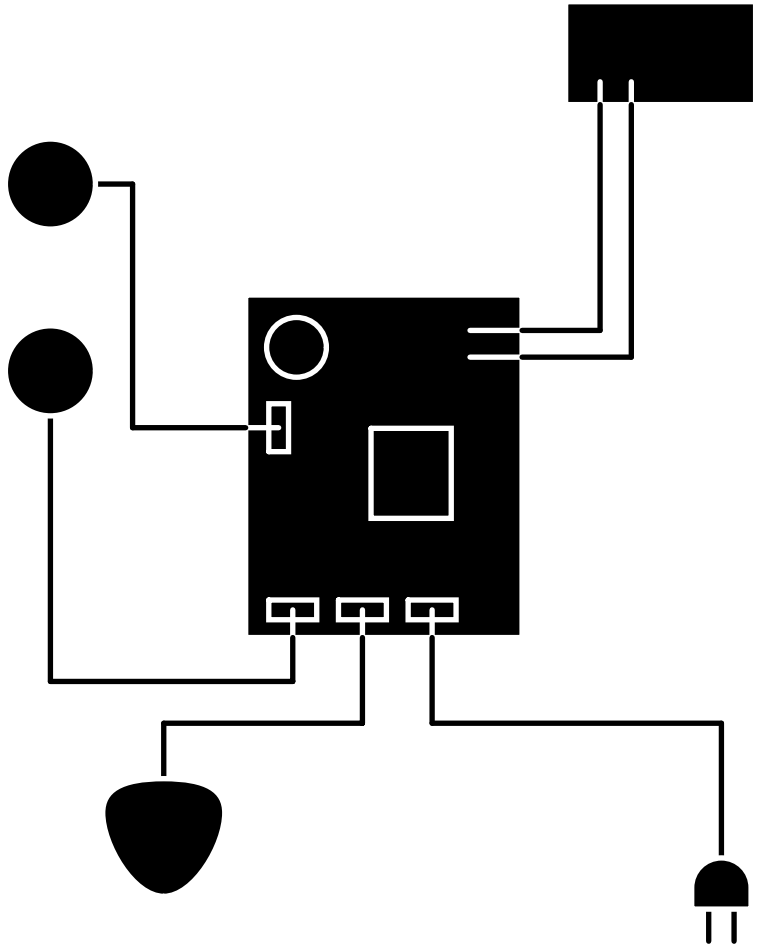
Section D

Wiring Diagrams



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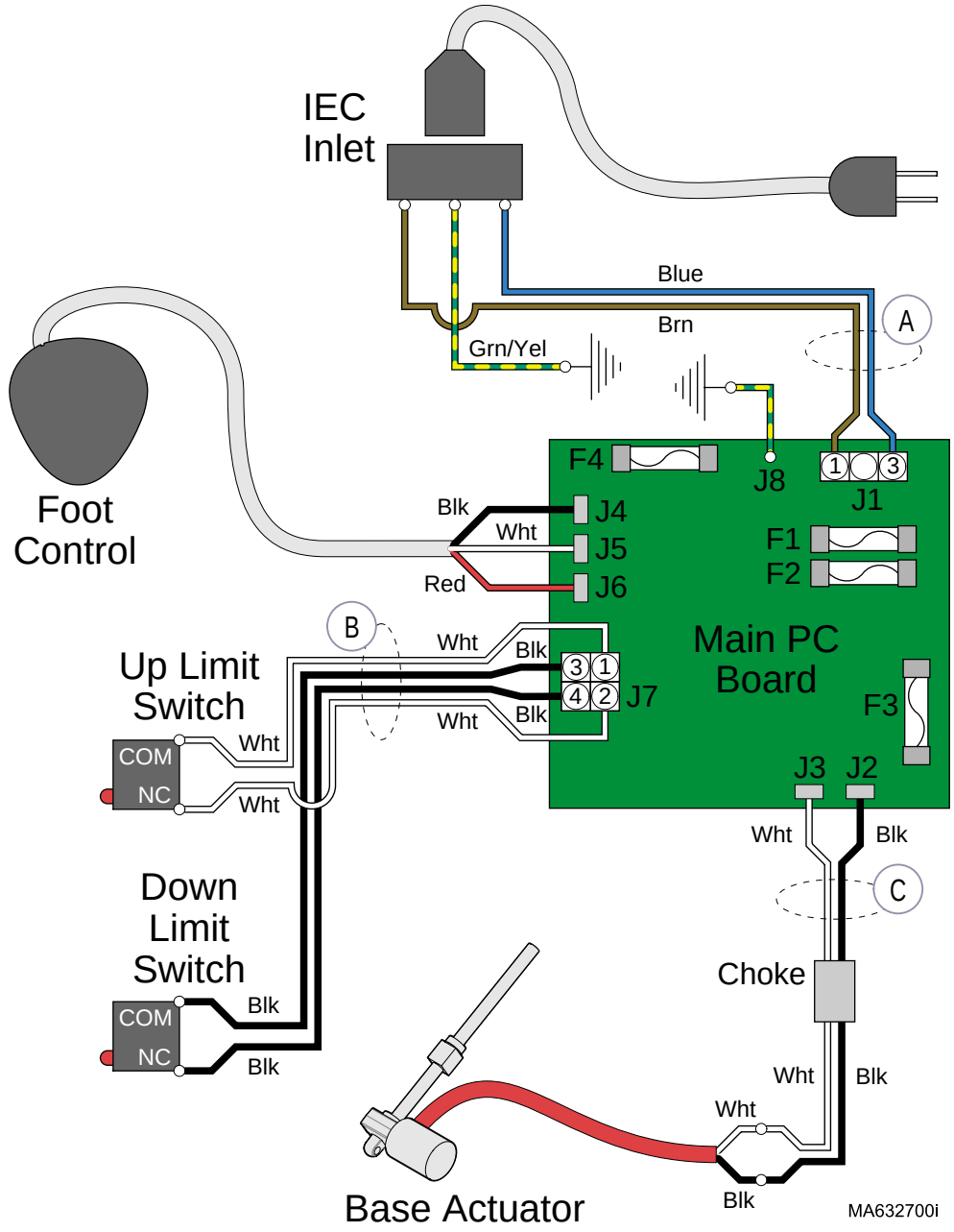

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*

This page applies to model numbers: ***222 (-001 & -005)***

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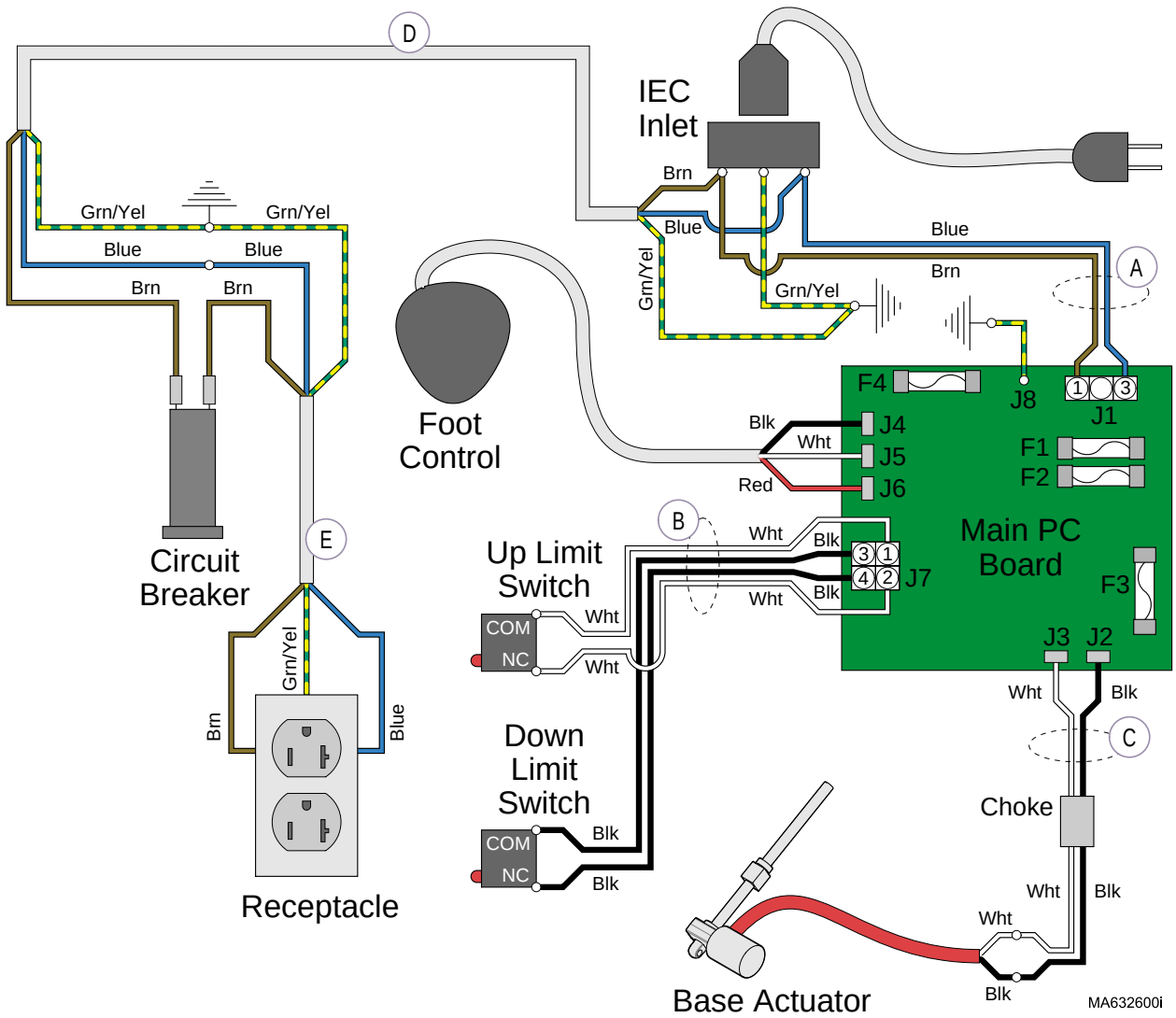
Wiring Diagrams



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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Circuit Breaker	IEC Inlet	**015-1594-30**
E	Receptacle	Circuit Breaker	**015-1595-00**

This page applies to model numbers: ***222 (-002 & -006)***

Wiring Diagrams

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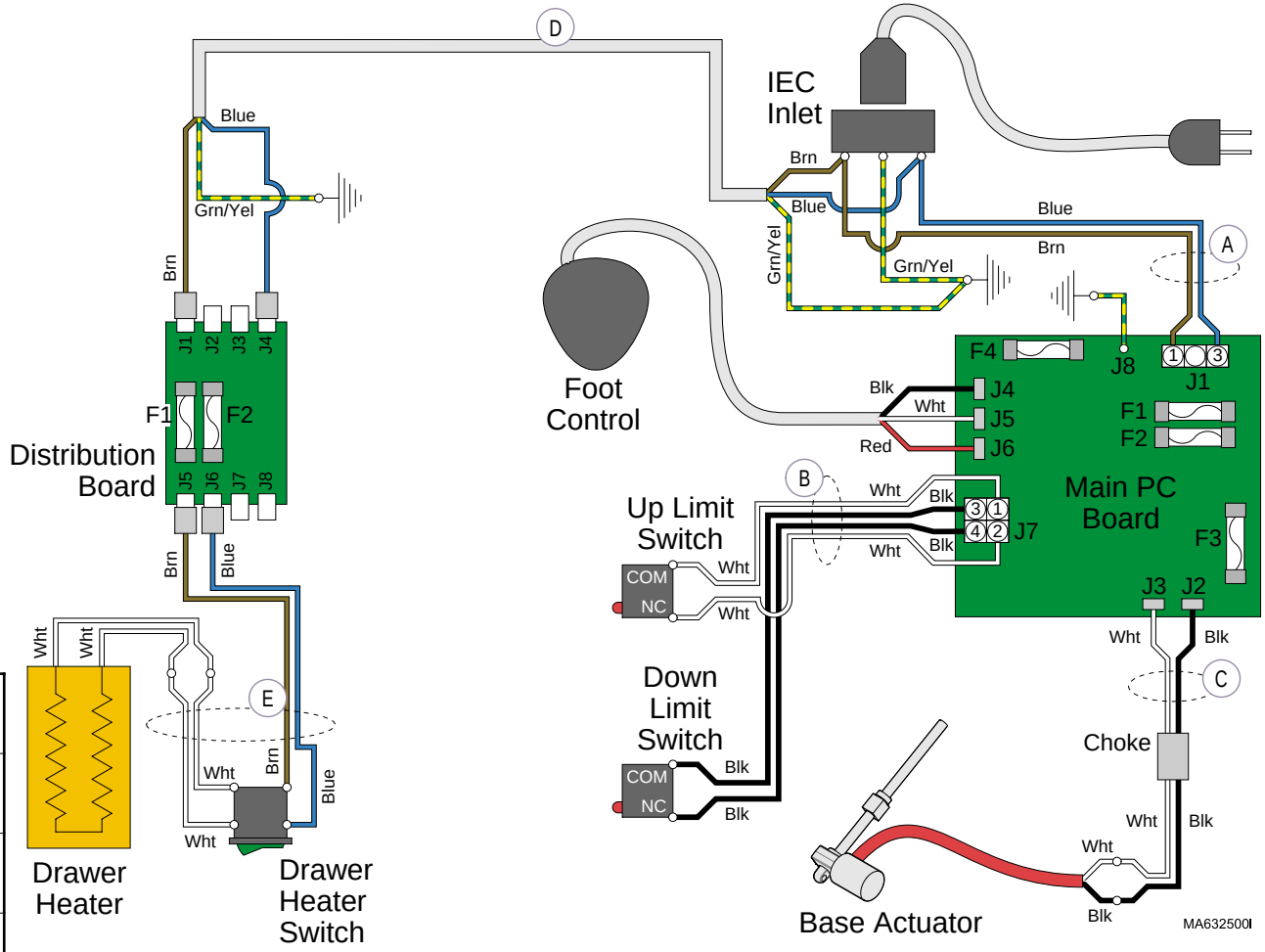

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Distribution Board	IEC Inlet	**015-1594-00**
E	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**

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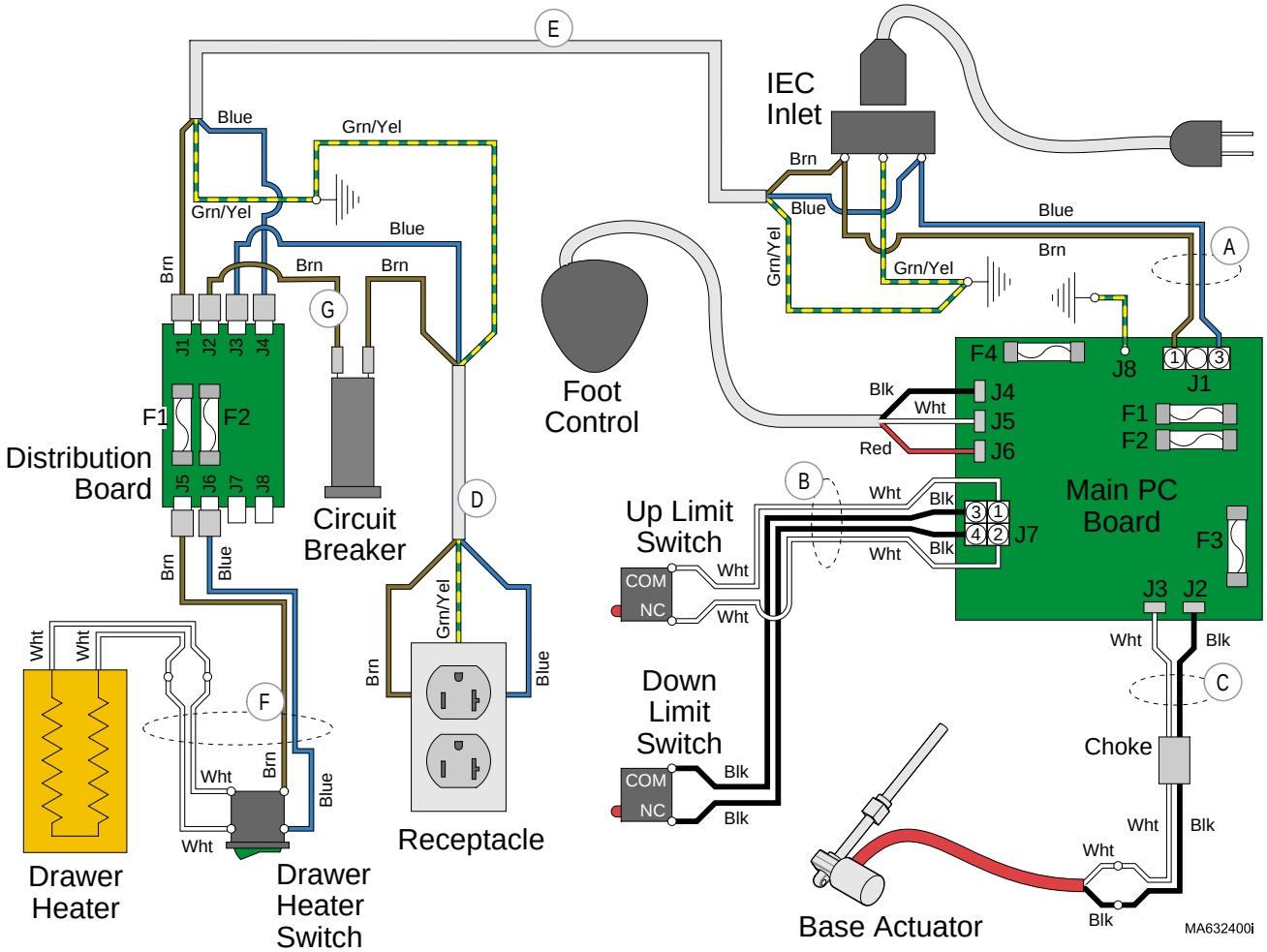

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Receptacle	Circuit Breaker	**015-1595-00**
E	Distribution Board	IEC Inlet	**015-1594-00**
F	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
G	Circuit Breaker	Distribution Board	**015-1708-30**

This page applies to model numbers: ***222 (-004 & -008)***

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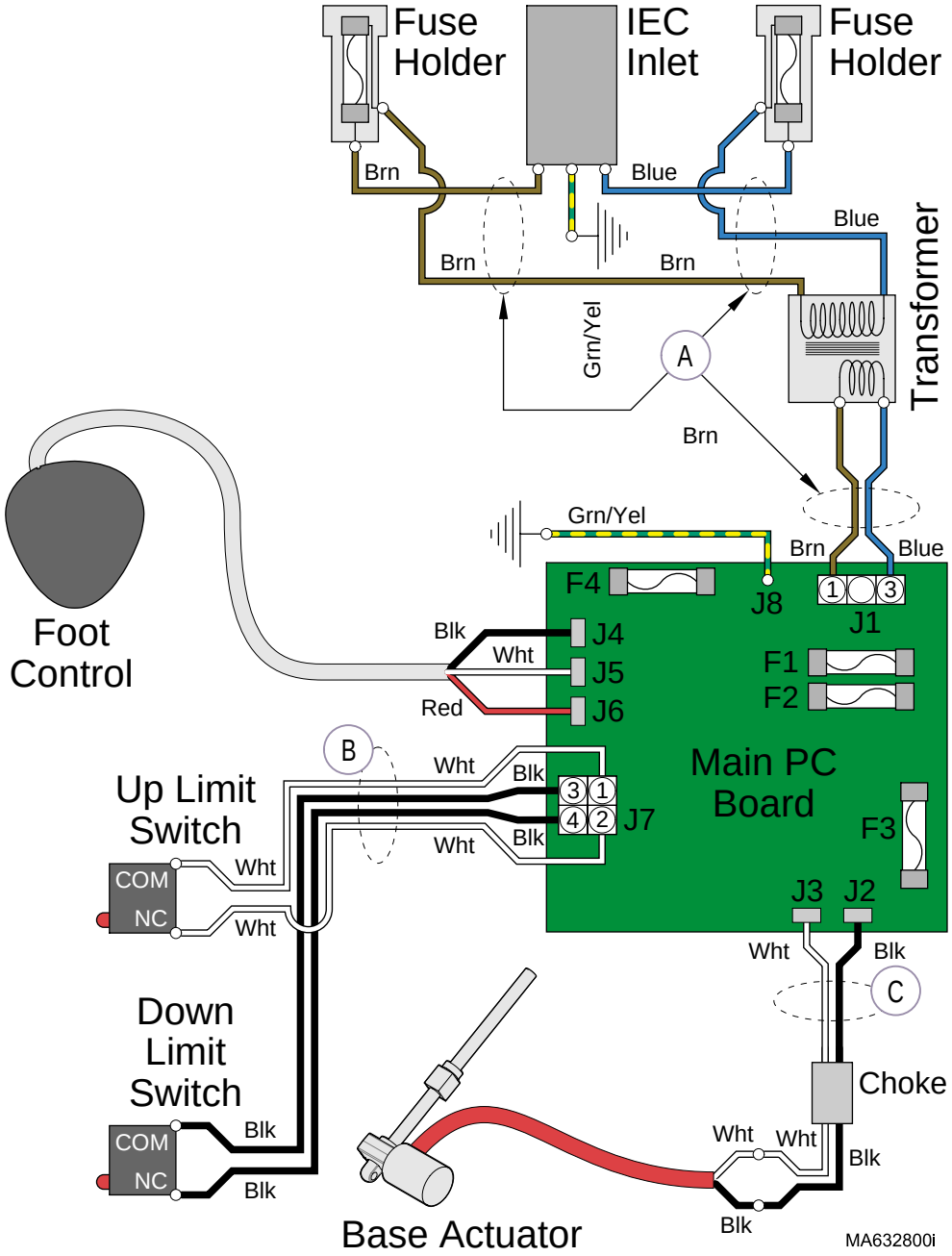

Wire Harness	From:	To:	Part Number
A	IEC Inlet / Fuse Holders / Transformer	Main PC Board	**015-1580-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1580-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*

This page applies to model numbers: ***222 (-009)***

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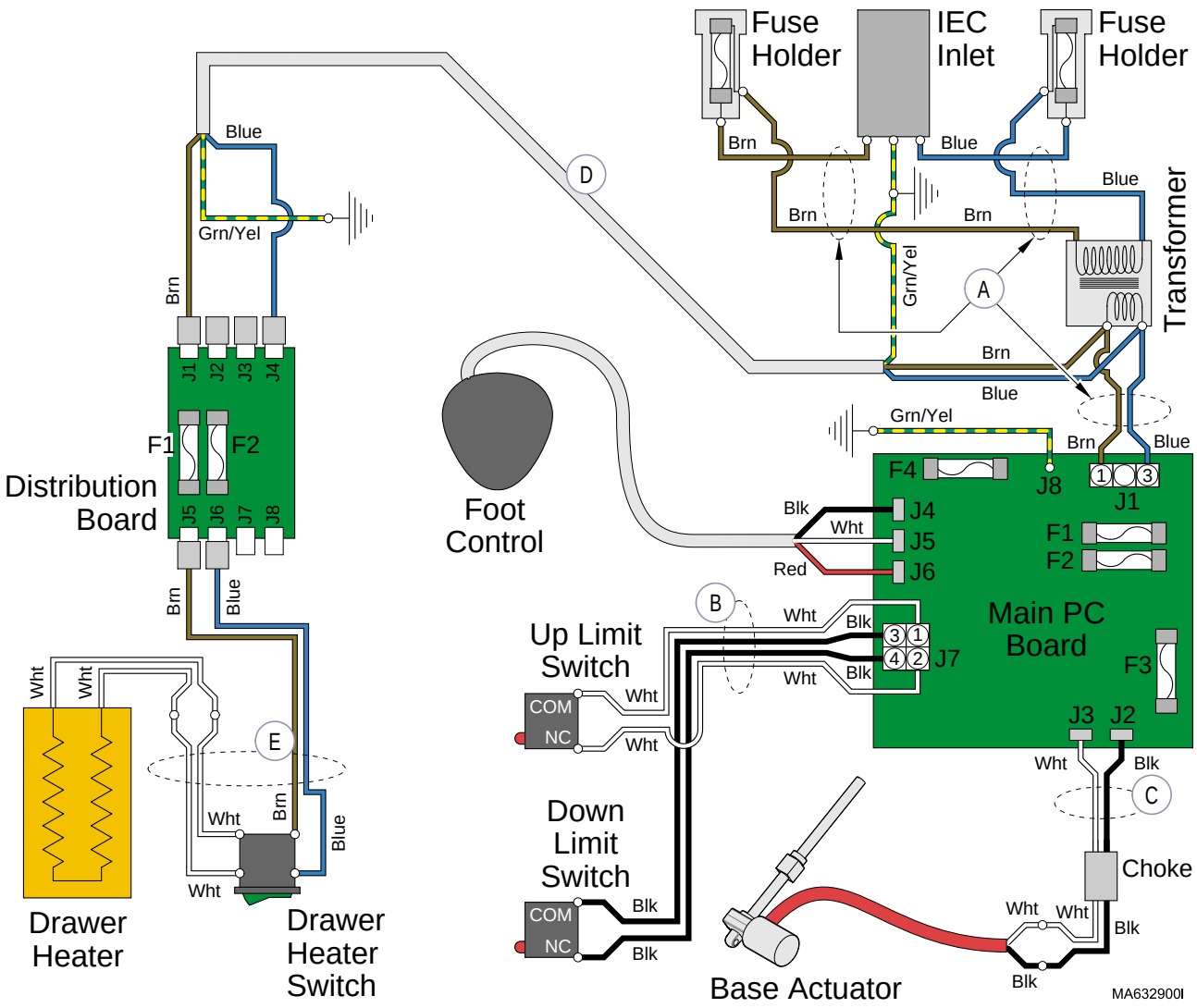

Wire Harness	From:	To:	Part Number
A	IEC Inlet / Fuse Holders / Transformer	Main PC Board	**015-1580-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1580-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Distribution Board	Transformer	**015-1594-00**
E	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**

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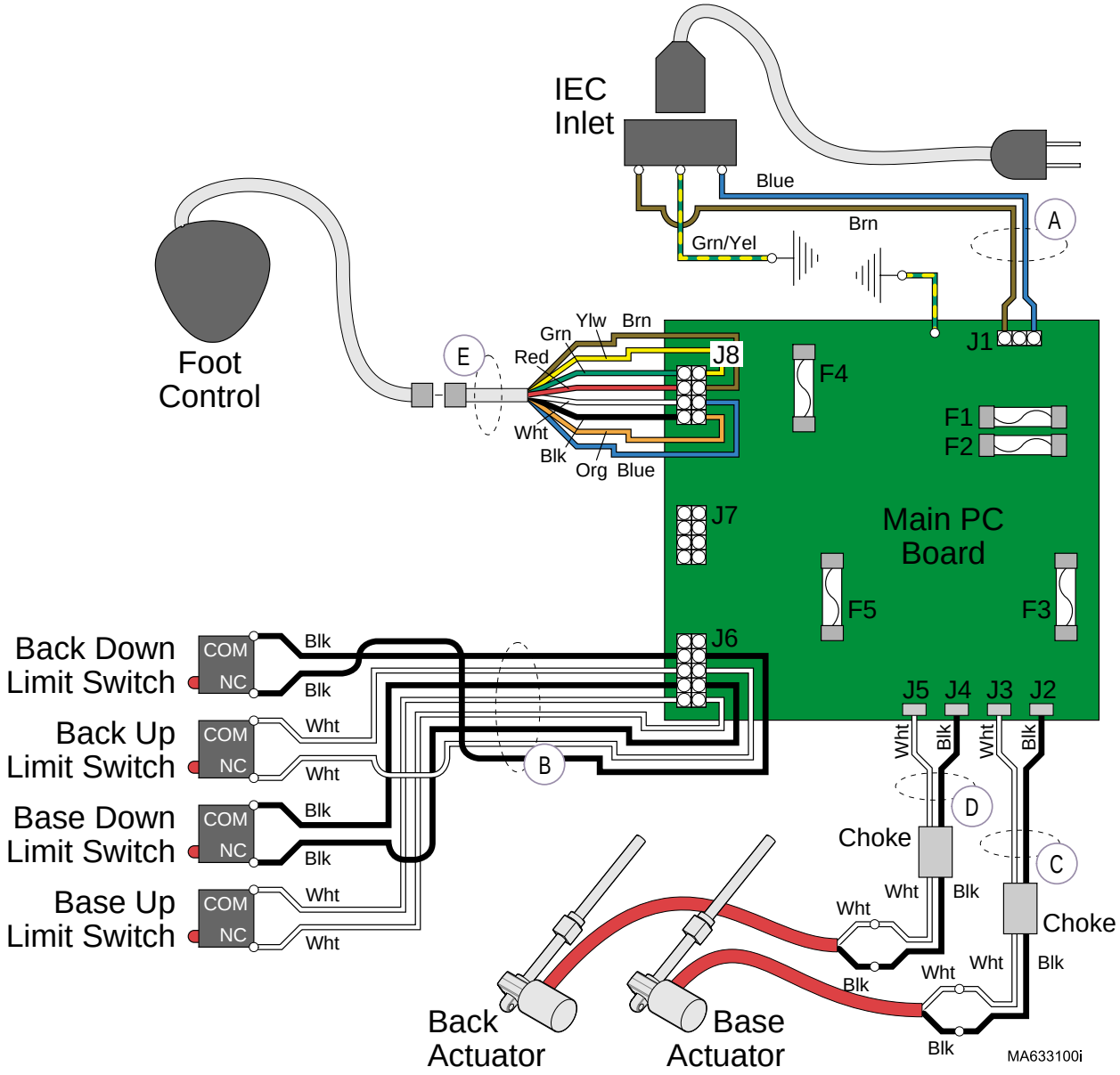

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**

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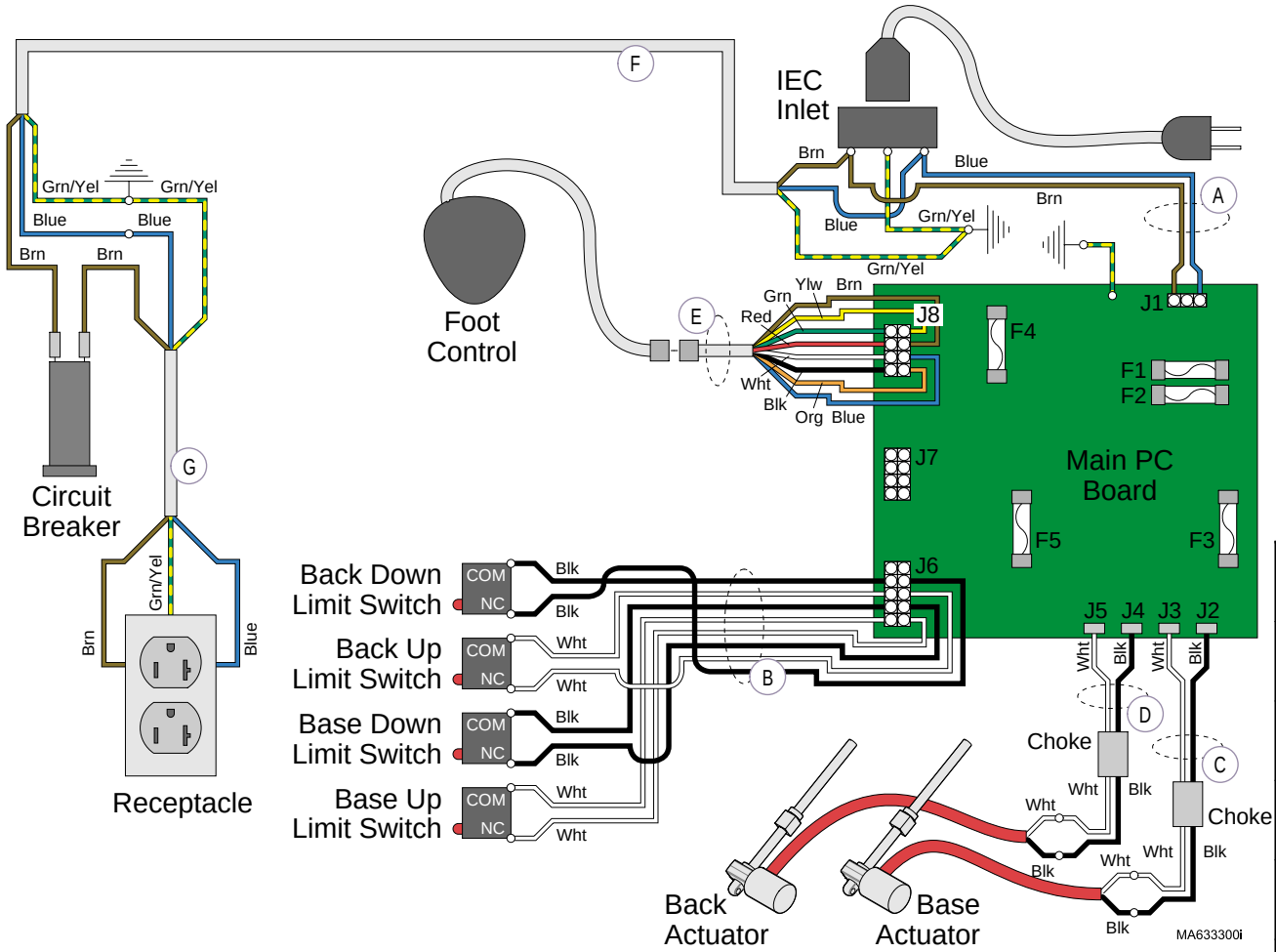

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Circuit Breaker	IEC Inlet	**015-1594-30**
G	Receptacle	Circuit Breaker	**015-1595-00**

This page applies to model numbers: ***223 (-002 & -006)***

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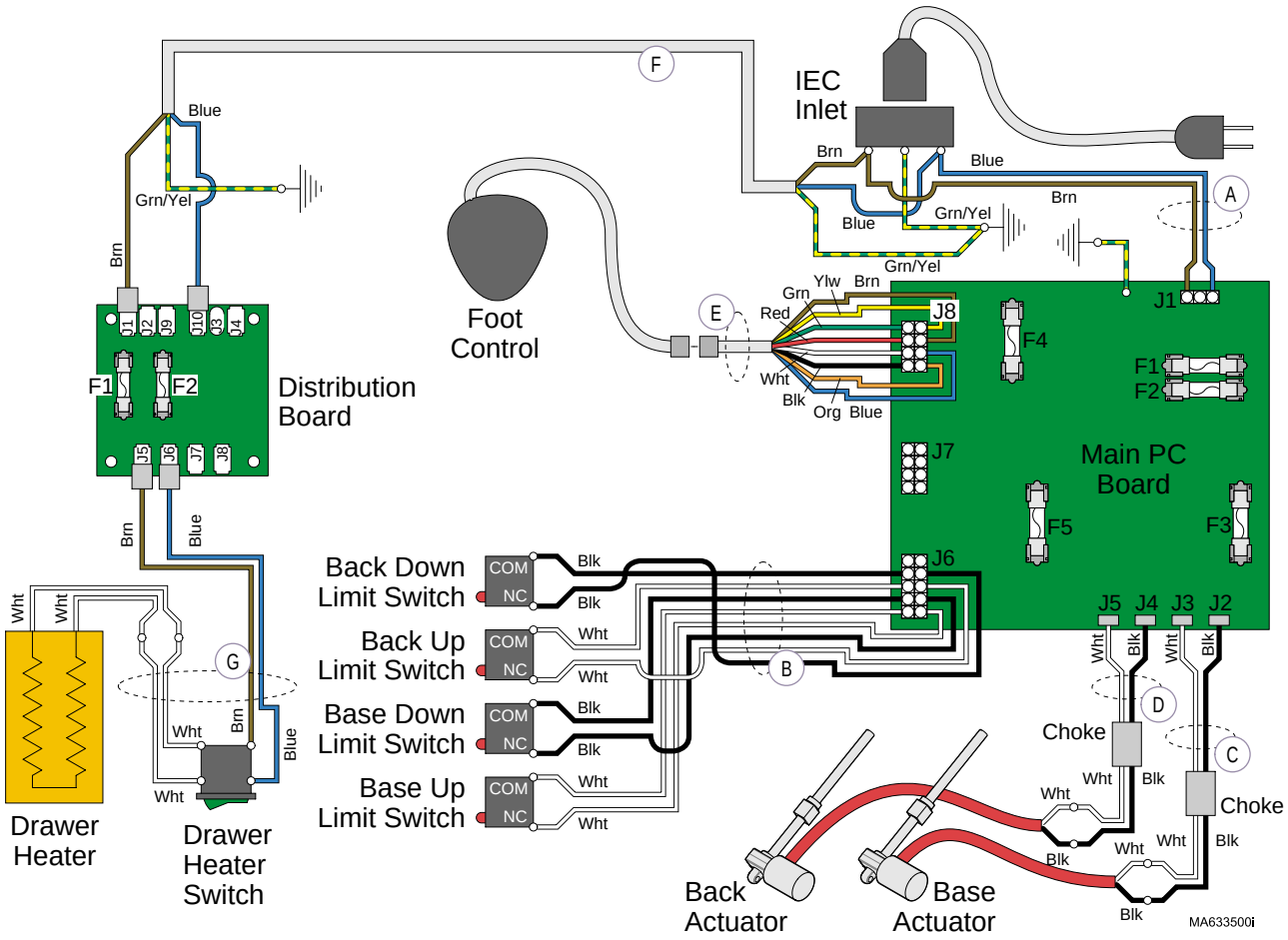
Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Distribution Board	IEC Inlet	**015-1594-00**
G	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**



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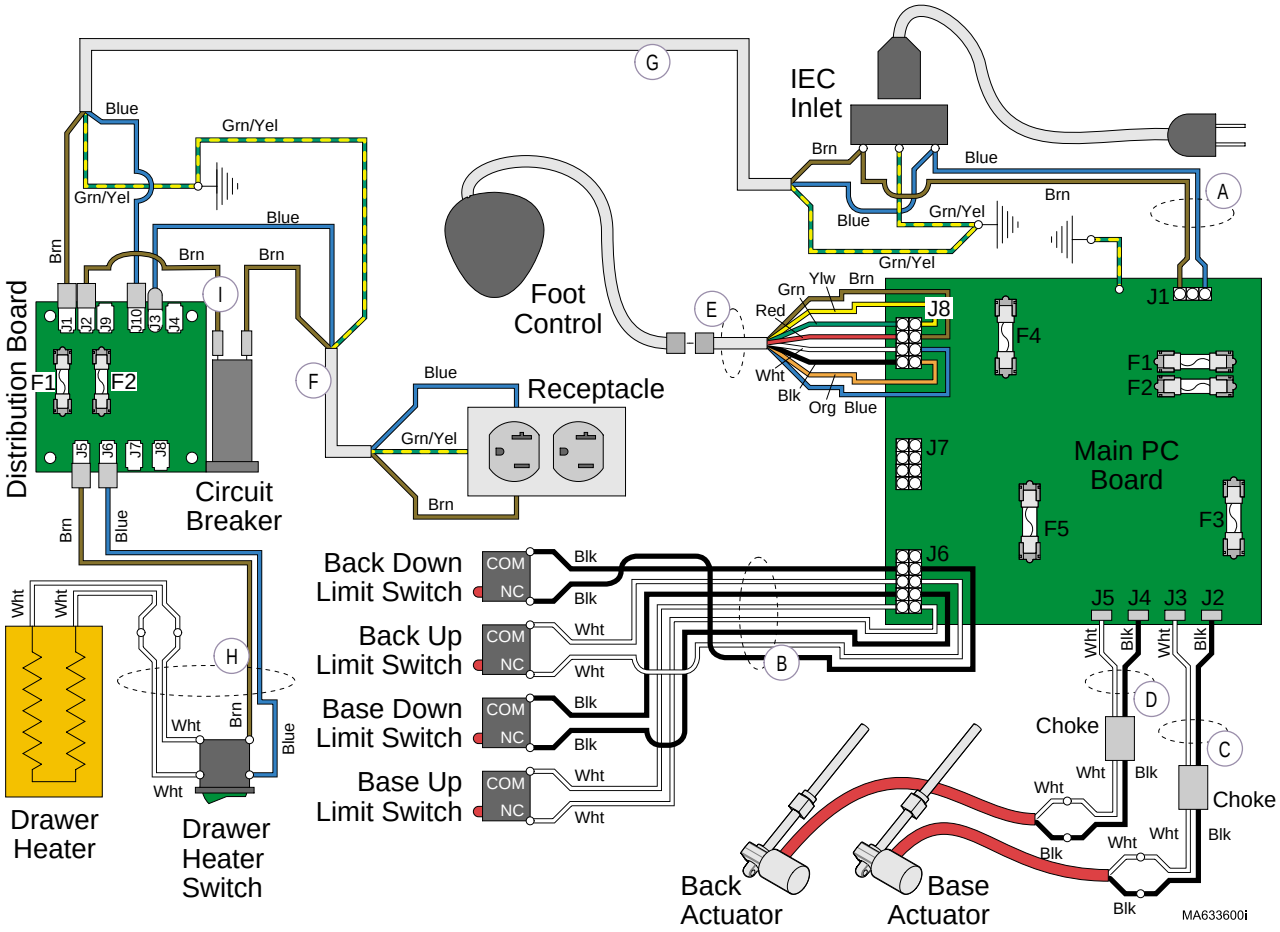

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Receptacle	Circuit Breaker	**015-1595-00**
G	Distribution Board	IEC Inlet	**015-1594-00**
H	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
I	Circuit Breaker	Distribution Board	**015-1708-30**

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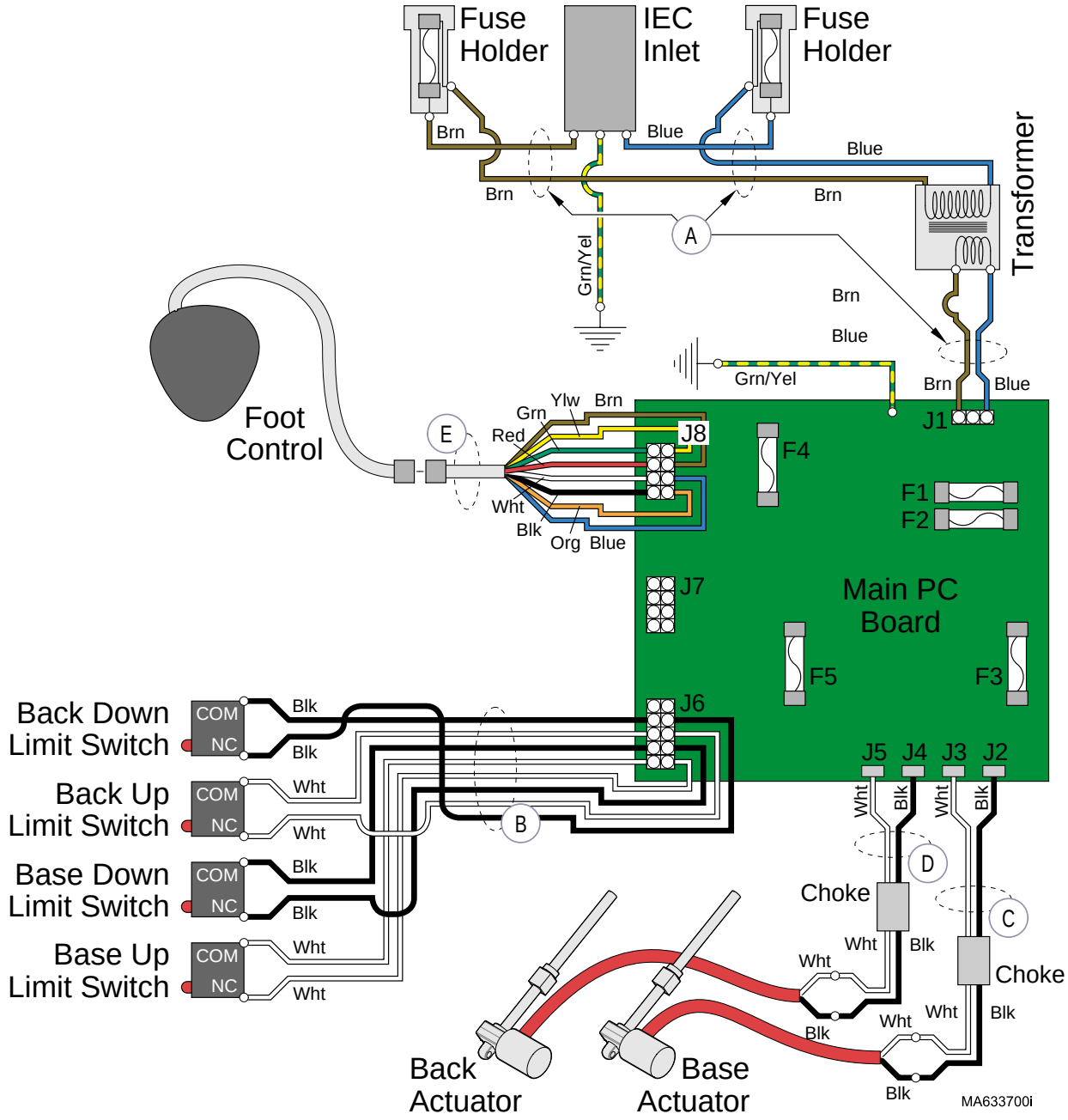

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1745-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1745-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**

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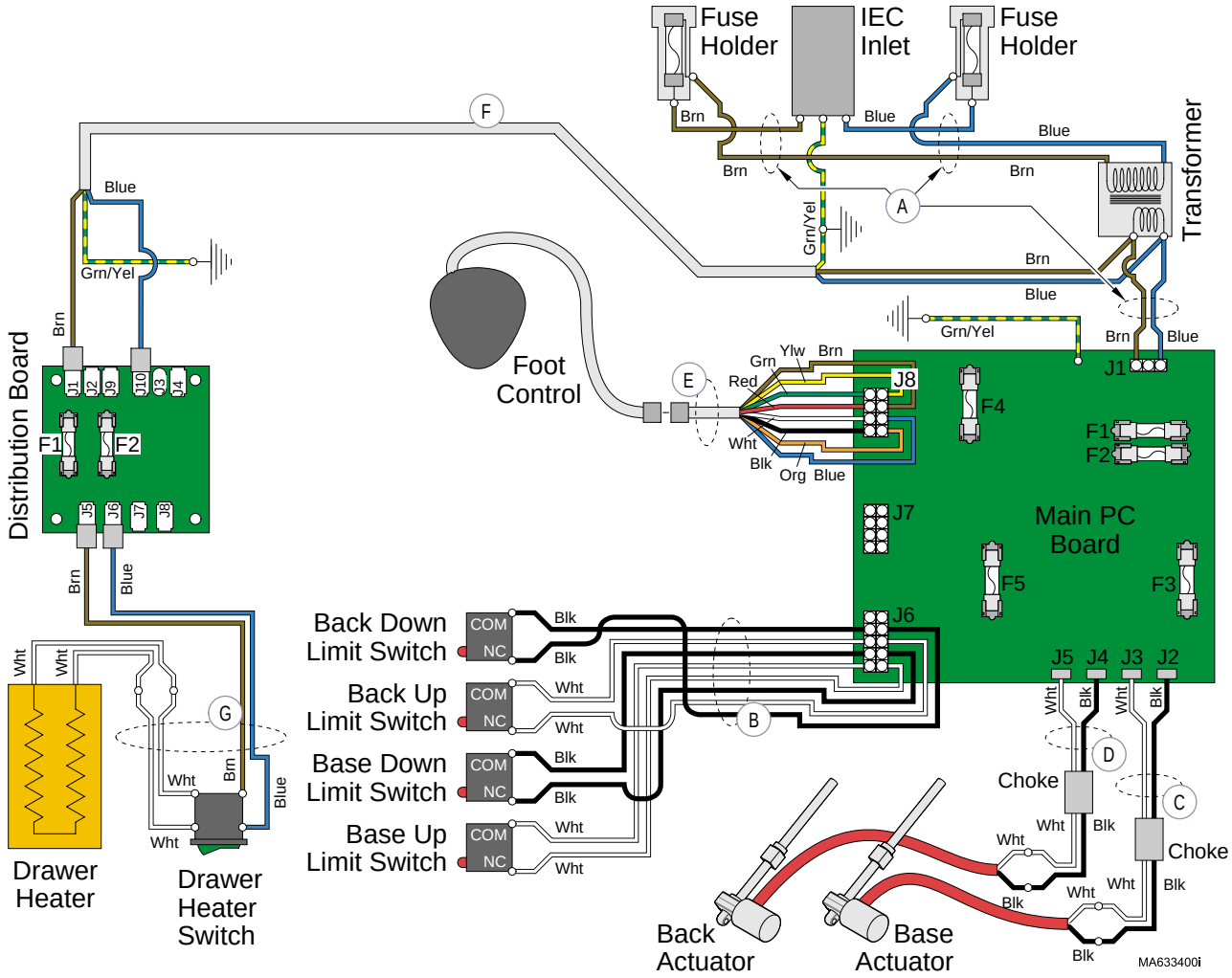

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1744-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1744-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Distribution Board	Transformer	**015-1594-00**
G	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**

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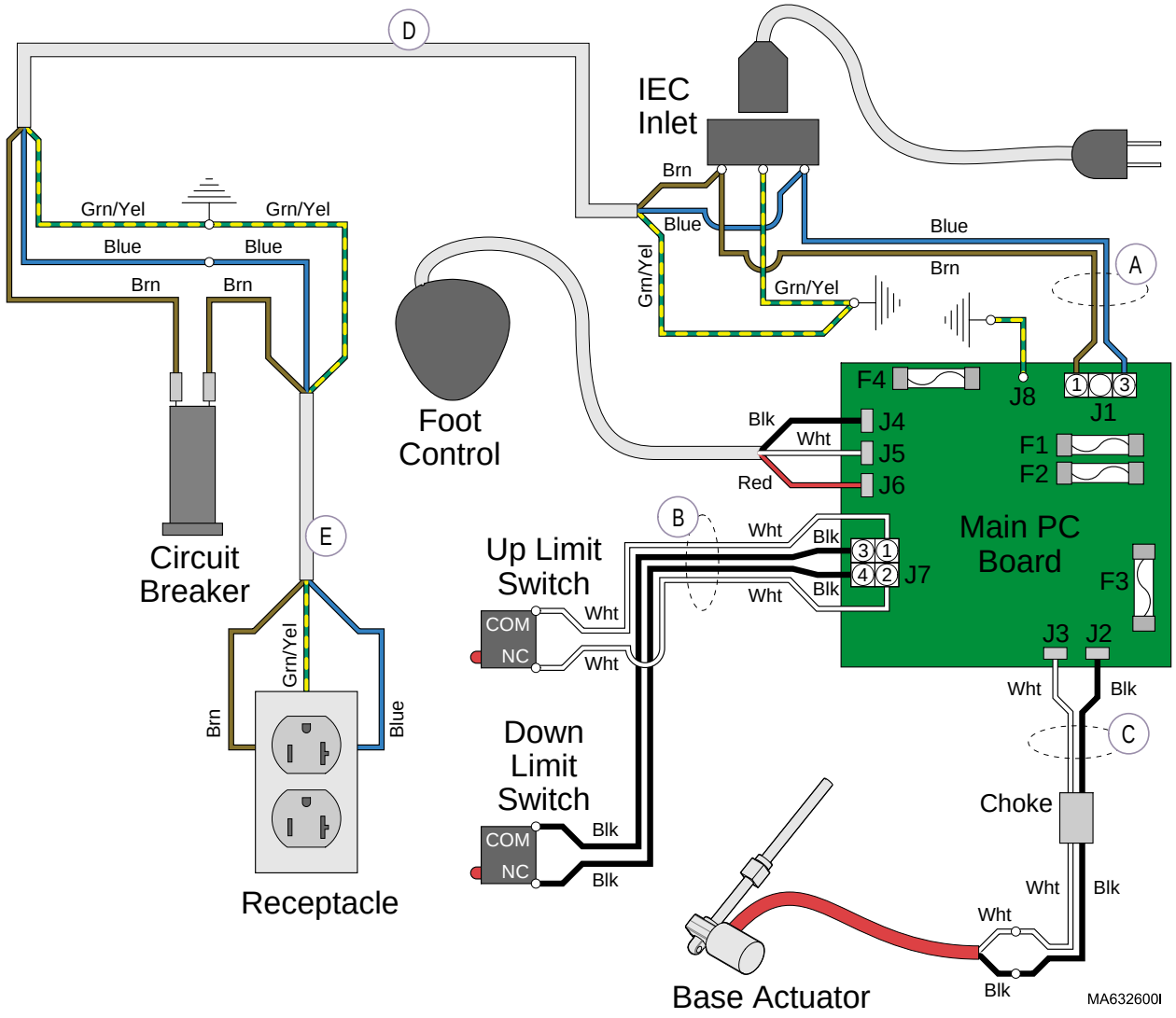

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	Base Up/Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Circuit Breaker	IEC Inlet	**015-1594-30**
E	Receptacle	Circuit Breaker	**015-1595-00**

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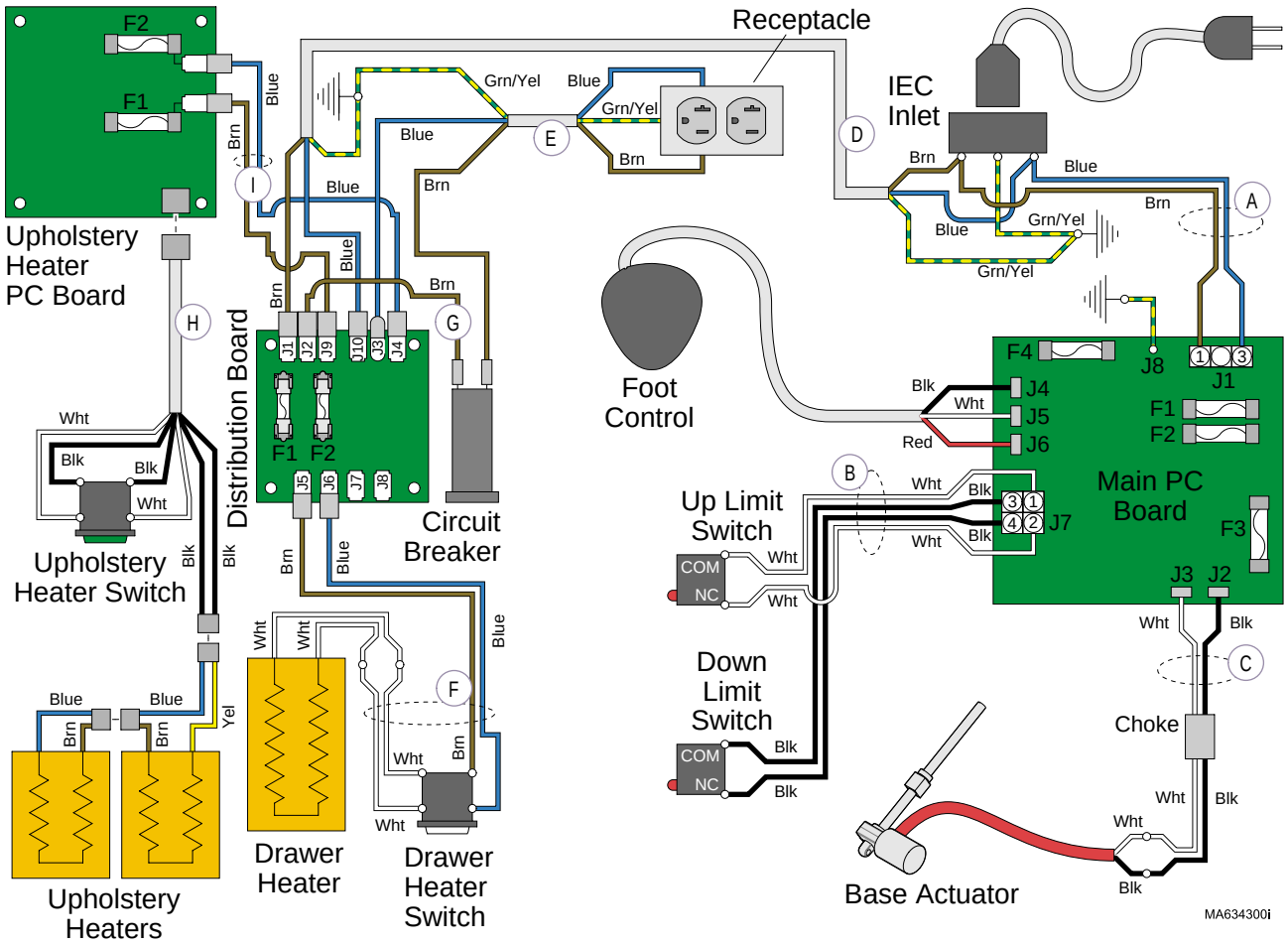
Wiring Diagrams



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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1579-00** *(includes Item B)*
B	BaseUp / Down Limit Switches	Main PC Board	**015-1579-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Distribution Board	IEC Inlet	**015-1594-00**
E	Receptacle	Dist. Board / Circuit Breaker	**015-1595-00**
F	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
G	Circuit Breaker	Distribution Board	**015-1708-30**
H	Upholstery Heater Board	Upholstery Heater, On/Off Switch	**015-1722-00**
I	Distribution Board	Upholstery Heater Board	**015-1720-00**

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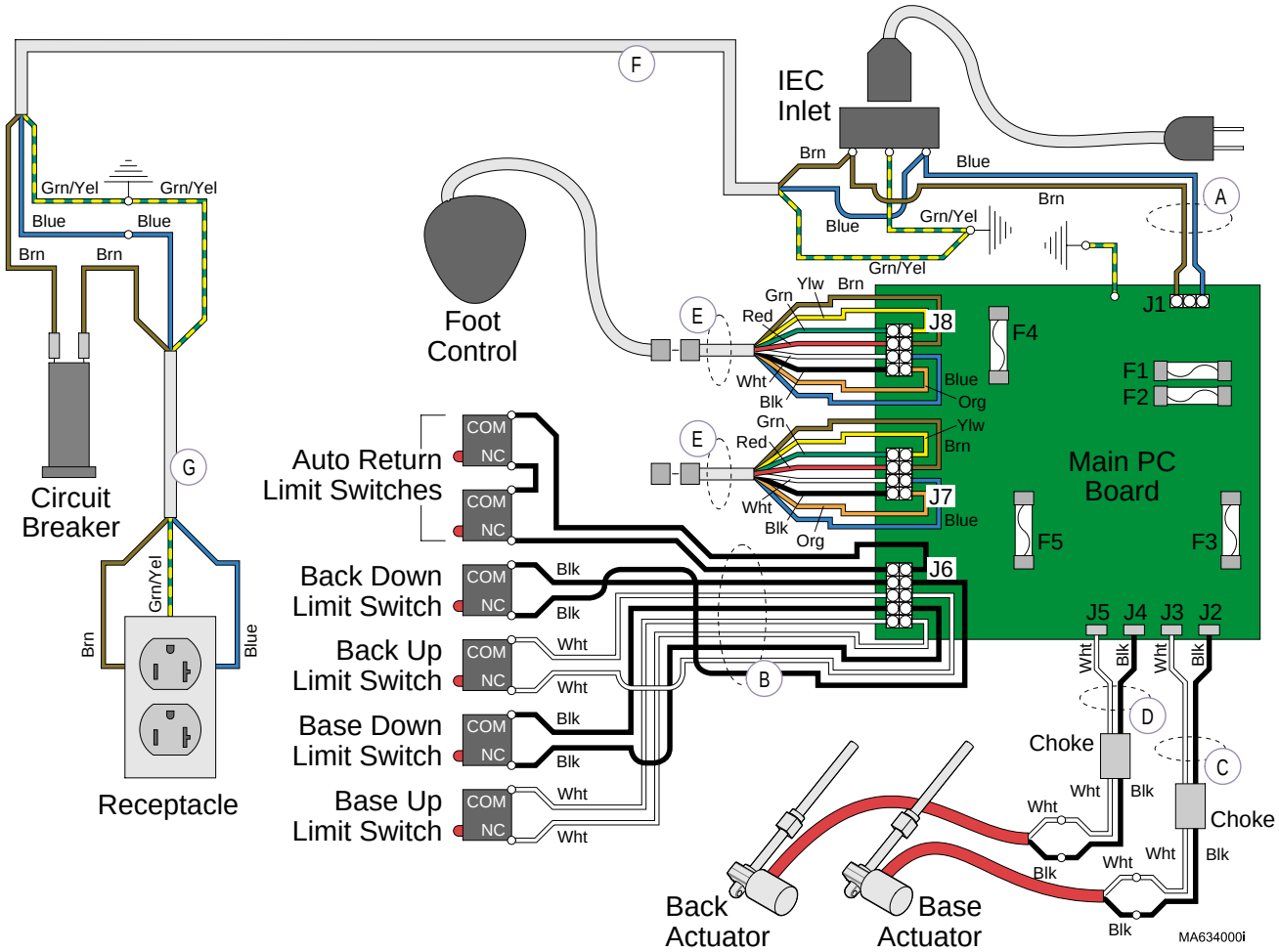

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1741-00** *(includes Item B)*
B	Base & Back Limit Switches	Main PC Board	**015-1741-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Circuit Breaker	IEC Inlet	**015-1594-30**
G	Receptacle	Circuit Breaker	**015-1595-00**

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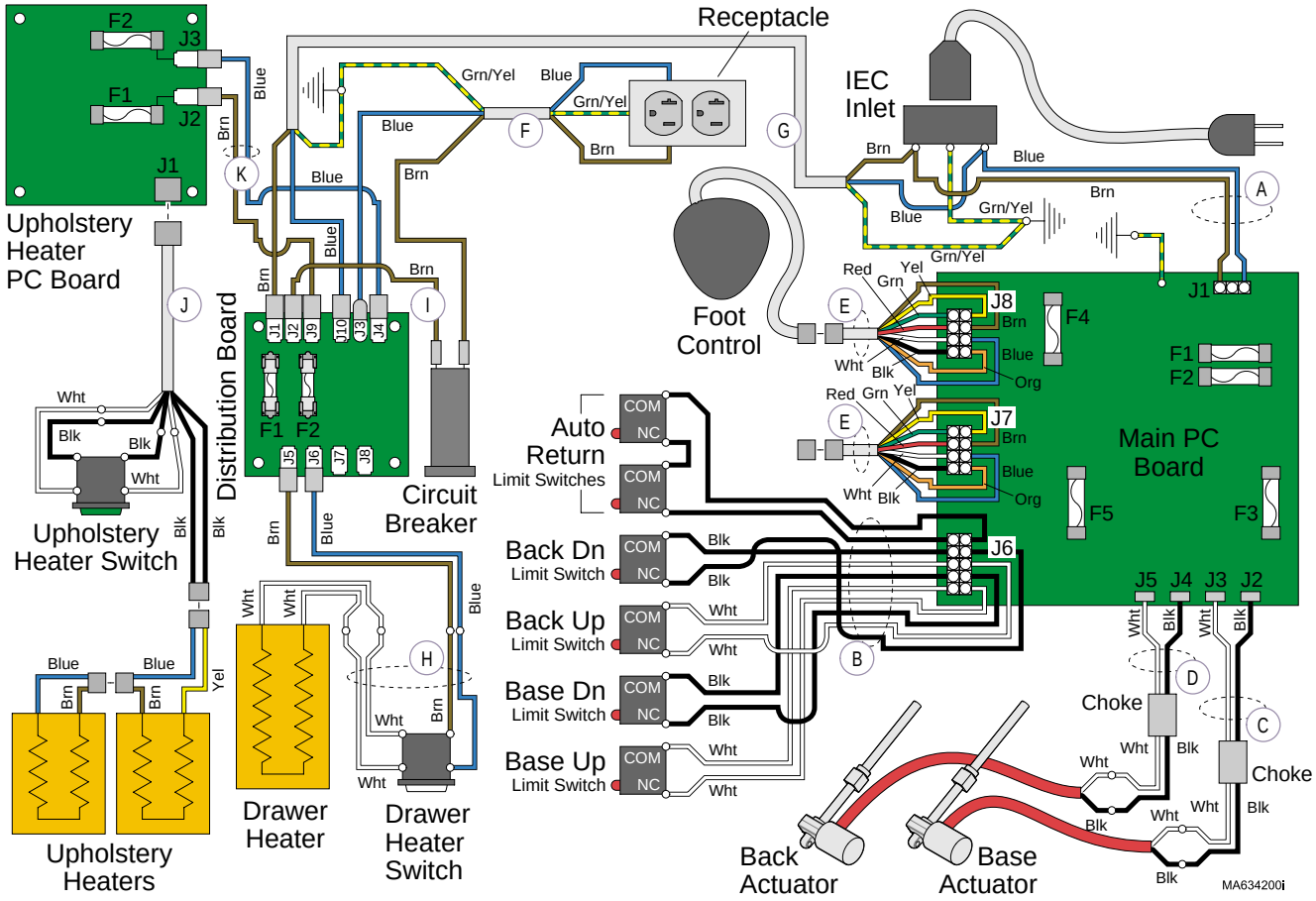
Wiring Diagrams



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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	**015-1741-00** *(includes Item B)*
B	Base,Back, & Auto Return Limit Switches	Main PC Board	**015-1741-00** *(includes Item A)*
C	Base Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
D	Back Actuator Wires	Main PC Board	**015-1635-00** *(includes choke)*
E	Foot Control Inlet	Main PC Board	**015-1784-00**
F	Receptacle	Circuit Breaker	**015-1595-00**
G	Distribution Board	IEC Inlet	**015-1594-00**
H	Heater Plate / Heater Switch	Distribution Board	**015-1629-00**
I	Circuit Breaker	Distribution Board	**015-1708-30**
J	Upholstery Heater Board	Upholstery Heater, On/Off Switch	**015-1722-00**
K	Distribution Board	Upholstery Heater Board	**015-1720-00**

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Wiring Diagrams

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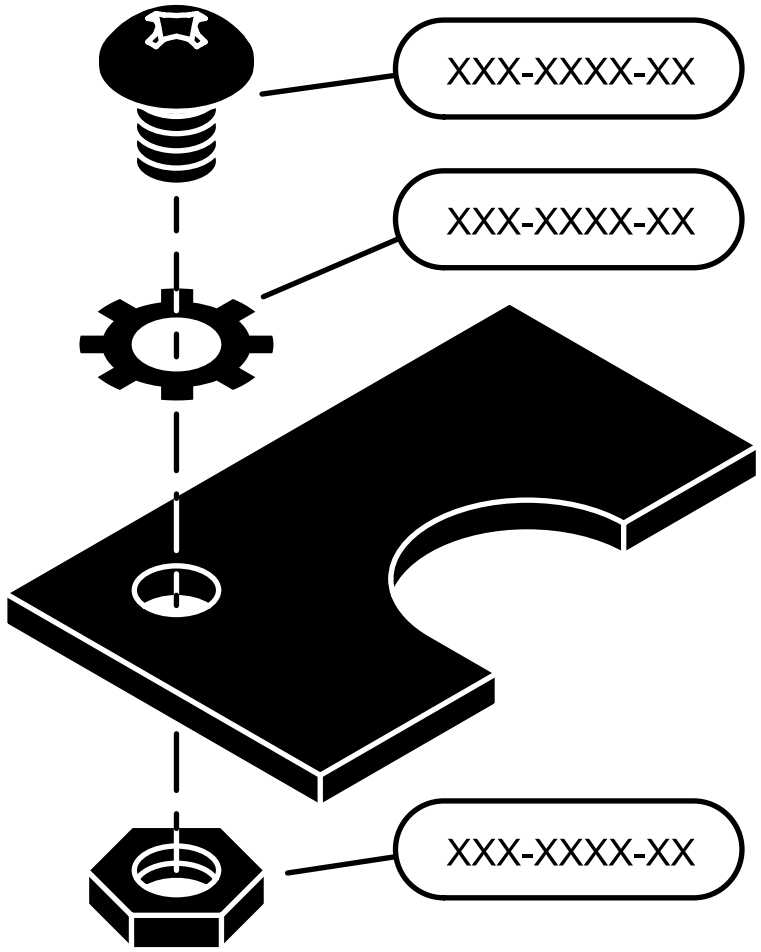

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Upholstery Components
Standard E-6
Styled / Seamless E-7

includes:
footrest pad, paper roll holder handles, etc.

Exam Assistant Drawer Assy. E-16

Stirrups. E-17

Foot Control. E-26

Base Actuator. E-25

Fuses *(all)* E-24

Model Identification / Compliance Chart iii

includes:
serial number prefixes, features, uph. style, electrical specs., regulatory compliance, etc.

Manual Back Components E-10

includes:
gas spring, top cover, handles, release mechanism, etc.

Upperwrap Components E-15*

includes:
footrest shelf, stirrup guide, treatment pan, etc.

Scissor Mechanism E-18*

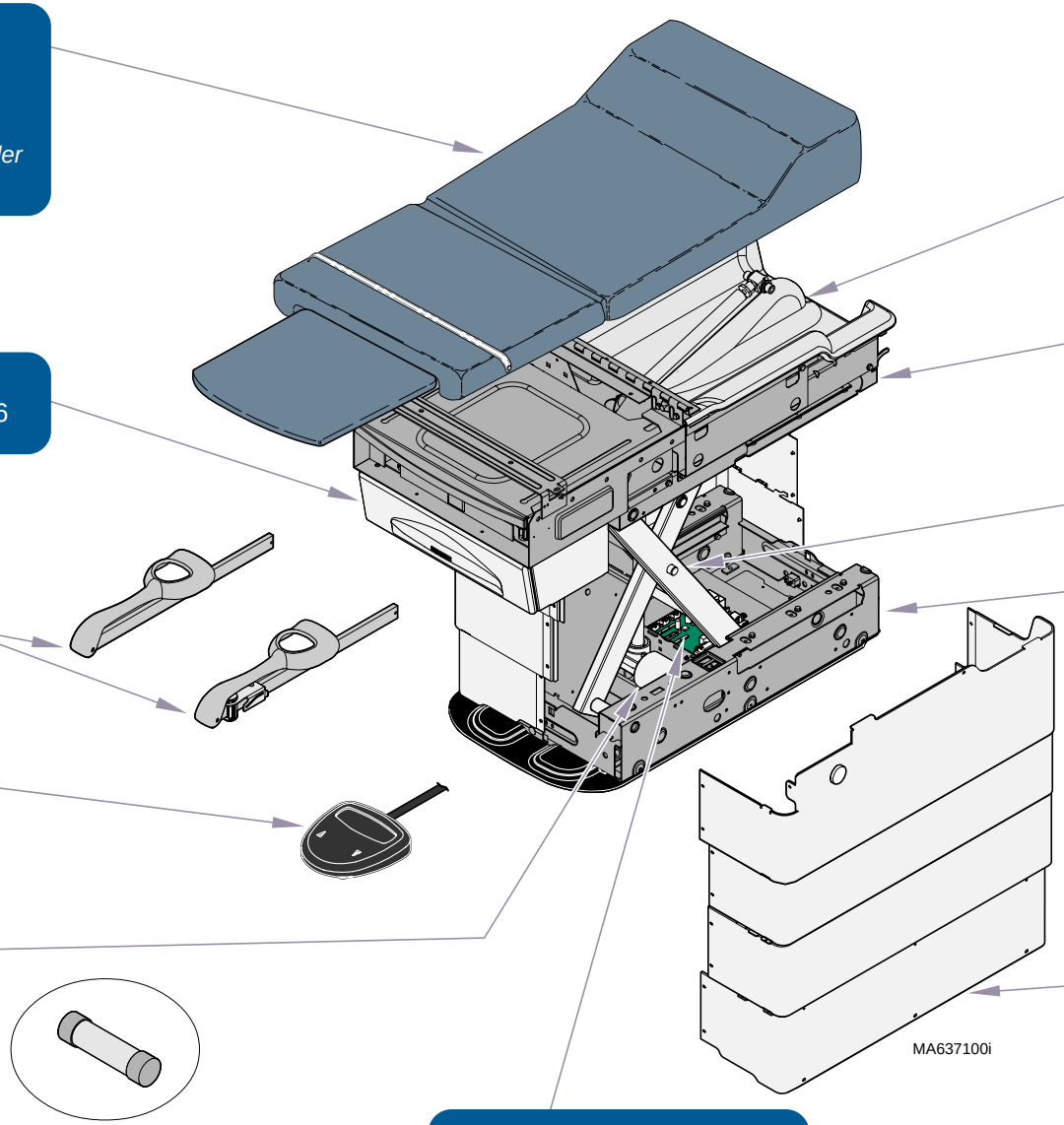
Base Components E-20*

includes:
power cord, base slides base limit switches, etc.

Table Shrouds E-13*

PC Board / Enclosure E-22*

includes:
PC Board, cover, mounting hardware, etc.



Optional Features

Drawer Heater E-32
Pelvic Tilt E-34
Receptacle E-35
230 V Transformer E-31

**** Indicates multiple pages due to a serial number break for the parts illustration***

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Upholstery Components
Standard E-6
Styled / Seamless E-7

includes:
footrest pad, paper roll holder handles, etc.

Exam Assistant Drawer Assy. E-16

Stirrups. E-17

Foot Control. E-27

Base Actuator. E-25

Fuses *(all)* E-24

Model Identification / Compliance Chart iv

includes:
serial number prefixes, features, uph. style, electrical specs., regulatory compliance, etc.

Power Back Components E-11

includes:
back actuator, top cover, back limit switches, etc.

Upperwrap Components E-15.1

includes:
footrest shelf, stirrup guide, treatment pan, etc.

Scissor Mechanism E-18.2

Base Components E-20.2

includes:
power cord, base slides base limit switches, etc.

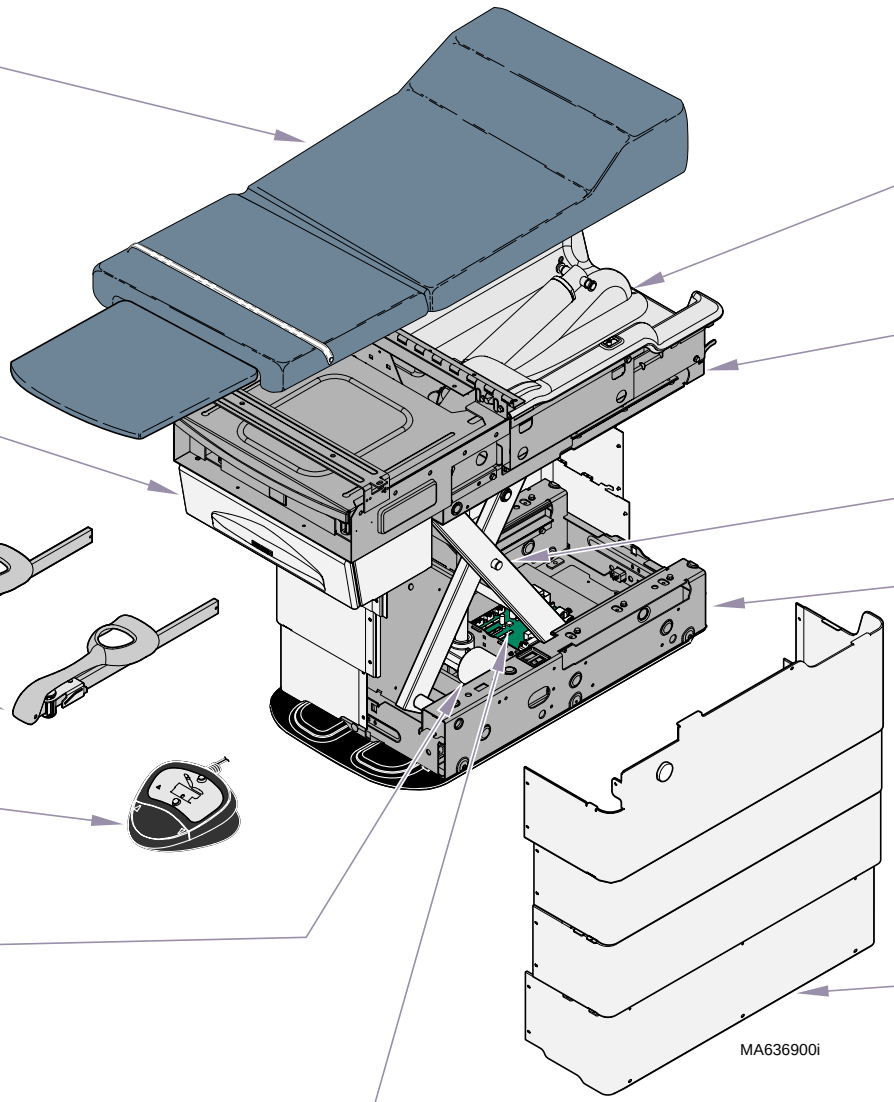
Table Shrouds E-13.1

PC Board / Enclosure E-23

includes:
PC Board, cover, mounting hardware, etc.

Optional Features

Drawer Heater E-32
Pelvic Tilt E-34
Receptacle E-35
230 V Transformer E-31



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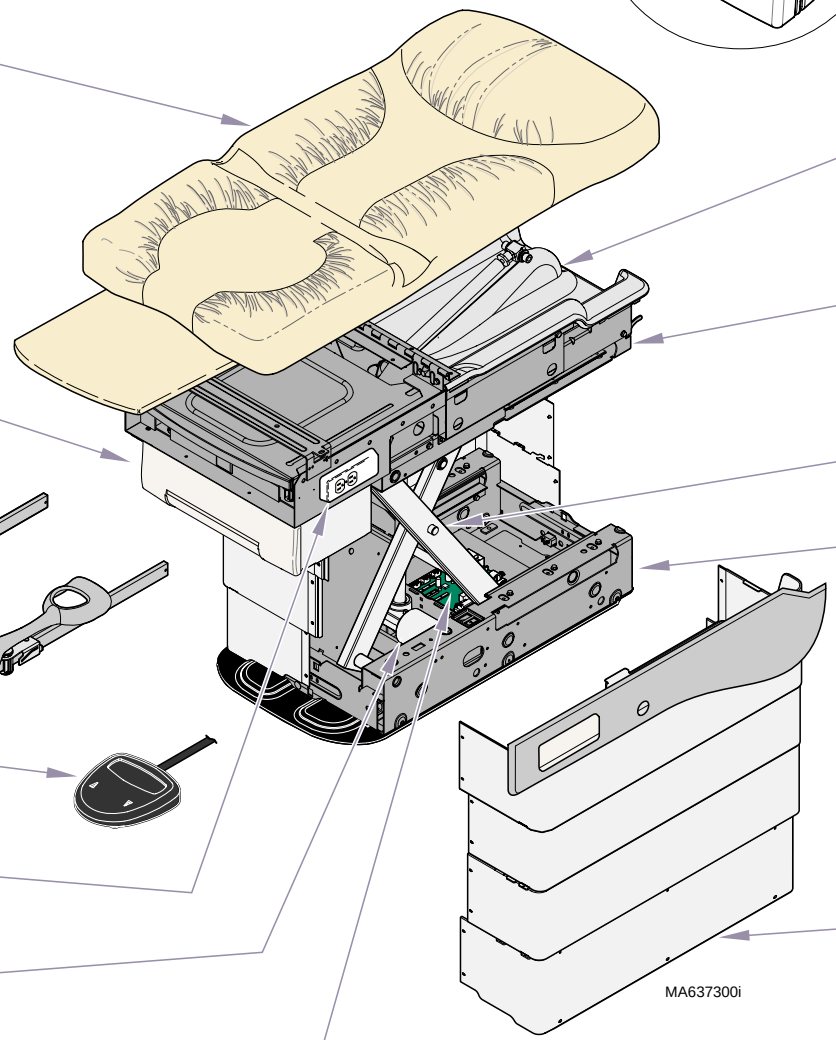
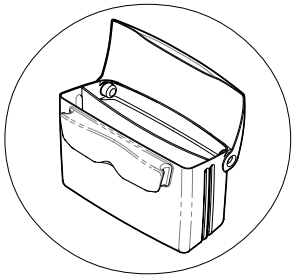


Storage Pod E-30



Upholstery Components
Premium E-8
Ultra-Premimum E-9

includes:
footrest pad, paper roll holder handles, etc.

Exam Assistant Drawer Assy. E-16

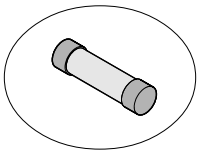
Stirrups. E-17

Foot Control. E-26

Receptacle Components. . E-35

Base Actuator. E-25

Fuses *(all)* E-24



PC Board / Enclosure E-22.1

includes:
PC Board, cover, mounting hardware, etc.

Model Identification / Compliance Chart v

includes:
serial number prefixes, features, uph. style, electrical specs., regulatory compliance, etc.

Manual Back Components E-10

includes:
gas spring, top cover, handles, release mechanism, etc.

Upperwrap Components E-15.1

includes:
footrest shelf, stirrup guide, treatment pan, etc.

Scissor Mechanism E-19

Base Components E-21

includes:
power cord, base slides base limit switches, etc.

Table Shrouds E-14

Optional Features

Drawer Heater E-32
Pelvic Tilt E-34
Uph. Heater E-33

**** Indicates multiple pages due to a serial number break for the parts illustration***

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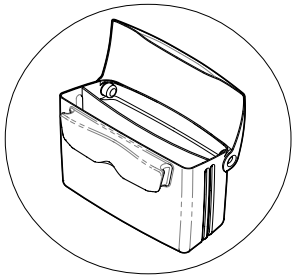


Storage Pod E-30

Model Identification / Compliance Chart v

includes:
serial number prefixes, features, uph. style, electrical specs., regulatory compliance, etc.

Upholstery Components
Premium E-8
Ultra-Premimum E-9

includes:
footrest pad, paper roll holder handles, etc.

Power Back Components E-11

includes:
back actuator, top cover, back limit switches, etc.

Upperwrap Components E-15.1

includes:
footrest shelf, stirrup guide, treatment pan, etc.

Exam Assistant Drawer Assy. E-16

Scissor Mechanism E-19

Stirrups..... E-17

Base Components E-21

includes:
power cord, base slides base limit switches, etc.

Foot Control..... E-28

Receptacle Components. . E-35

Base Actuator. E-25

Table Shrouds E-14

Fuses *(all)* E-24

PC Board / Enclosure E-23

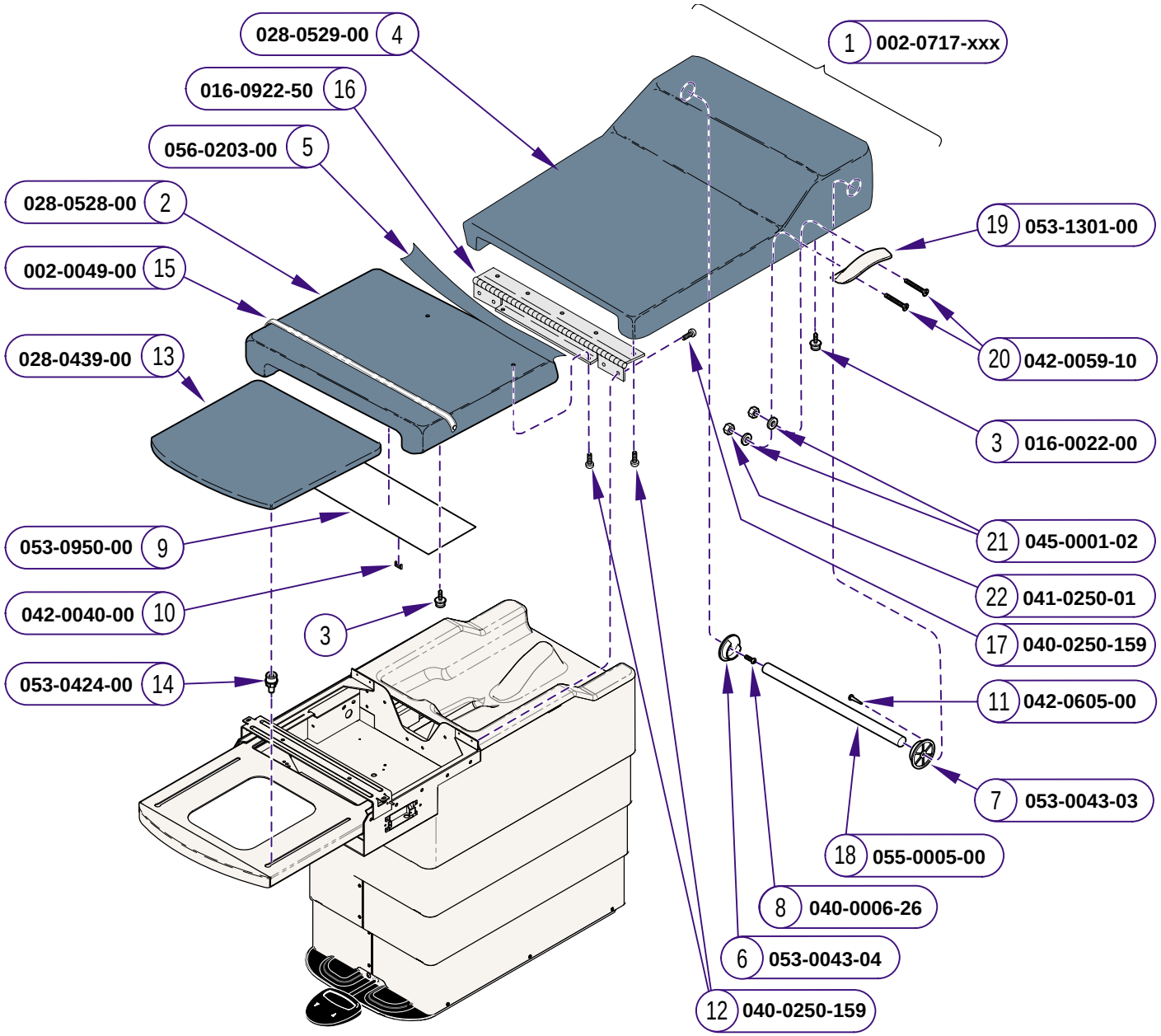
includes:
PC Board, cover, mounting hardware, etc.

Optional Features

Drawer Heater E-32
Pelvic Tilt E-34
Uph. Heater E-33

MA637200i

**** Indicates multiple pages due to a serial number break for the parts illustration***



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Exploded Views / Part Numbers .. E-1

UPHOLSTERY COLOR CODES [replace -xxx]

-200 Sand Grey	-209 Monet
-201 Slate Grey	-210 Soft Pearl
-202 Iris Blue	-211 Waterford
-203 Nile Green	-212 English Gardens
-204 Terra Rosa	-213 Cabernet
-205 Royal Lavender	-214 Tapestry
-206 Wedgewood	-215 Cathedral
-207 Monaco	-216 Pebble Grey
-208 Royal Carriage	-999 Special

Item	Description	Qty.
1	Cut & Sewn Upholstery Kit *(includes items 2 thru 12)*	1
2	• Upholstered Seat w/Stud *(specify color)*	1
3	• • Stud	4
4	• Upholstered Headboard w/Stud *(specify color)*	1
5	• Hinge Cover *(specify color)*	1
6	• R.H. Dowel Socket	1
7	• L.H. Dowel Socket	1
8	• Screw *(#6 x .5")*	2
9	• Scuff Plate	1
10	• Staple	10
11	• Wire Nail	AR
12	• Screw	4
13	Upholstered Footrest *(specify color)*	1
14	Footrest Glide	4
15	Tear Straps Kit *(includes two straps)*	1
16	Hinge Assembly	1
17	Screw *(1/4-20 x .87")*	4
18	Dowel Rod	1
19	Release Handle Grip *(222 only)*	2
20	Screw *(1/4-20 x 1.75" [222 only])*	4
21	Washer *(222 only)*	4
22	Nut *(1/4-20 [222 only])*	4

Always Specify Model & Serial Number

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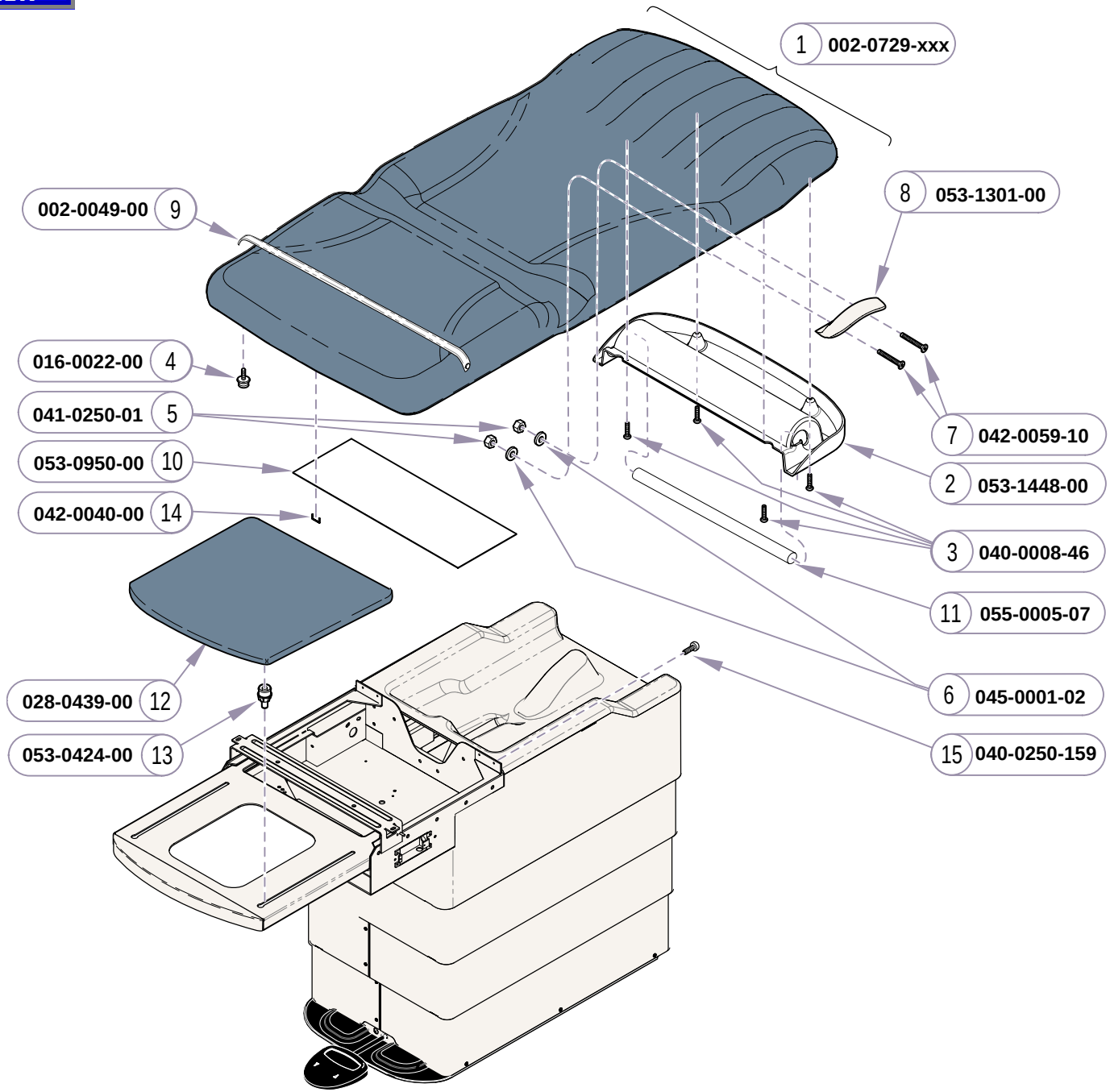
Upholstery Components

Cut & Sewn / Standard

Serial Number Breaks	***222 (-001 thru -004)*** ***222 (-009 & -010)*** all	***223 (-001 thru -004)*** ***223 (-009 & -010)*** all	



MA618501i

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UPHOLSTERY COLOR CODES [replace -xxx]

-200 Sand Grey	-209 Monet
-201 Slate Grey	-210 Soft Pearl
-202 Iris Blue	-211 Waterford
-203 Nile Green	-212 English Gardens
-204 Terra Rosa	-213 Cabernet
-205 Royal Lavender	-214 Tapestry
-206 Wedgewood	-215 Cathedral
-207 Monaco	-216 Pebble Grey
-208 Royal Carriage	-999 Special

Item	Description	Qty.
1	Seamless Upholstery Top *(includes items 2 thru 8)*	1
2	• Paper Roll Holder	1
3	• Screw	4
4	• Stud	2
5	• Nut	4
6	• Washer	4
7	• Bolt	4
8	• Release Handle Grip	2
9	Tear Strap Kit *(includes two straps)*	2
10	Scuff Plate	1
11	Dowel Rod	1
12	Upholstered Footrest *(specify color)*	1
13	Footrest Guide	4
14	Staple	10
15	Bolt	4

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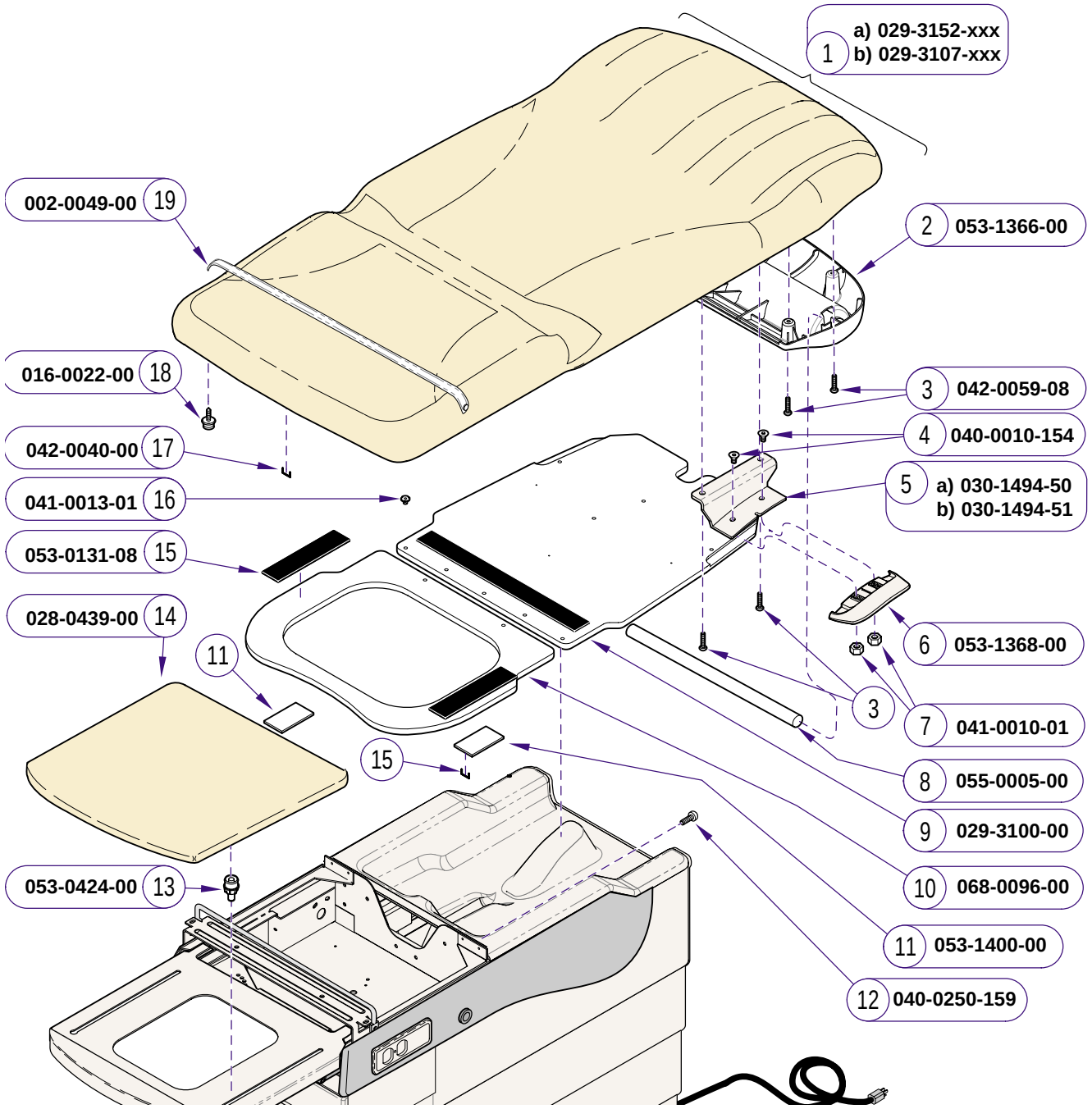
Serial Number Breaks	***222 (-005 thru -008)***	***223 (-005 thru -008)***		
	all	all		

Upholstery Components

Seamless / Styled



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UPHOLSTERY COLOR CODES [replace -xxx]

-200 Sand Grey	-209 Monet
-201 Slate Grey	-210 Soft Pearl
-202 Iris Blue	-211 Waterford
-203 Nile Green	-212 English Gardens
-204 Terra Rosa	-213 Cabernet
-205 Royal Lavender	-214 Tapestry
-206 Wedgewood	-215 Cathedral
-207 Monaco	-216 Pebble Grey
-208 Royal Carriage	-999 Special

Item	Description	Qty.
1a	Premium Upholstery Kit *(w/heater)*	1
1b	Premium Upholstery Kit *(w/o heater)* *(includes items 2 thru 7 [specify color])*	1
2	• Paper Roll Holder	1
3	• Screw *(1/4 x 20 x .78")*	8
4	• Screw *(#10- 32 x .43")*	4
5a	• R.H. Grip Handle Bracket	1
5b	• L.H. Grip Handle Bracket	1
6	• Back Grip Handle	2
7	• Nut *(#10-32)*	4
8	Paper Roll	2
9	Back Mounting Frame *(includes item 16)*	1
10	Seat Mounting Frame *(includes item 16)*	1
11	Scuff Plate	2
12	Screw	4
13	Footrest Guide	4
14	Upholstered Footrest *(specify color)*	1
15	Velcro Hook *(2" x 9")*	2
16	Nutsert	11
17	Staple	4
18	Stud	1
19	Tear Straps Kit *(includes two straps)*	1

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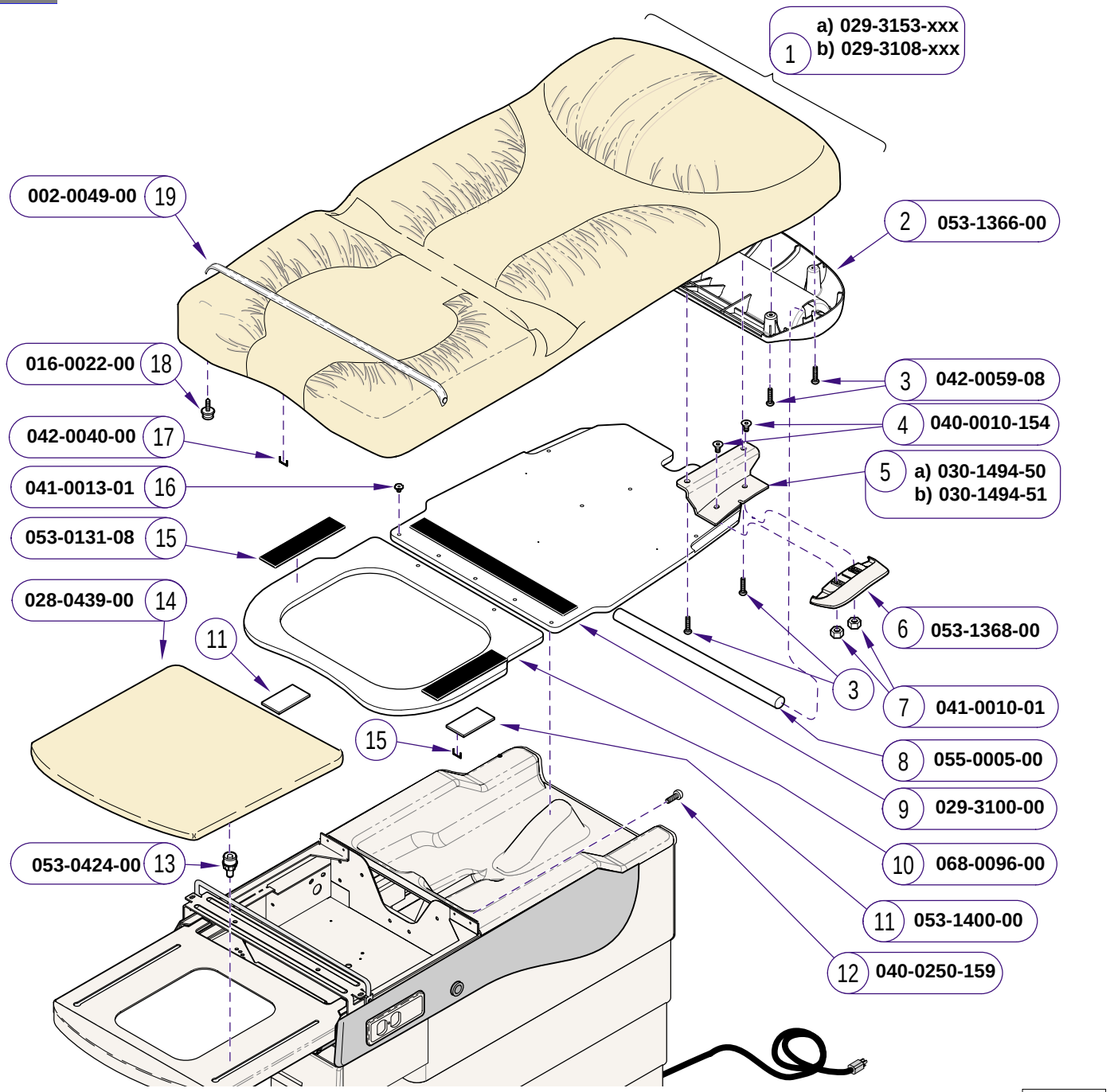
Upholstery Components

Premium

Serial Number Breaks			***622 (-001)***	***623 (-001)***
			all	all



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UPHOLSTERY COLOR CODES [replace -xxx]

-200 Sand Grey	-209 Monet
-201 Slate Grey	-210 Soft Pearl
-202 Iris Blue	-211 Waterford
-203 Nile Green	-212 English Gardens
-204 Terra Rosa	-213 Cabernet
-205 Royal Lavender	-214 Tapestry
-206 Wedgewood	-215 Cathedral
-207 Monaco	-216 Pebble Grey
-208 Royal Carriage	-999 Special

Item	Description	Qty.
1a	Premium Upholstery Kit *(w/heater)*	1
1b	Premium Upholstery Kit *(w/o heater)* *(includes items 2 thru 7 [specify color])*	1
2	• Paper Roll Holder	1
3	• Screw *(1/4 x 20 x .78")*	8
4	• Screw *(#10- 32 x .43")*	4
5a	• R.H. Grip Handle Bracket	1
5b	• L.H. Grip Handle Bracket	1
6	• Back Grip Handle	2
7	• Nut *(#10-32)*	4
8	Paper Roll	2
9	Back Mounting Frame *(includes item 16)*	1
10	Seat Mounting Frame *(includes item 16)*	1
11	Scuff Plate	2
12	Screw	4
13	Footrest Guide	4
14	Upholstered Footrest *(specify color)*	1
15	Velcro Hook *(2" x 9")*	2
16	Nutsert	11
17	Staple	4
18	Stud	1
19	Tear Straps Kit *(includes two straps)*	1

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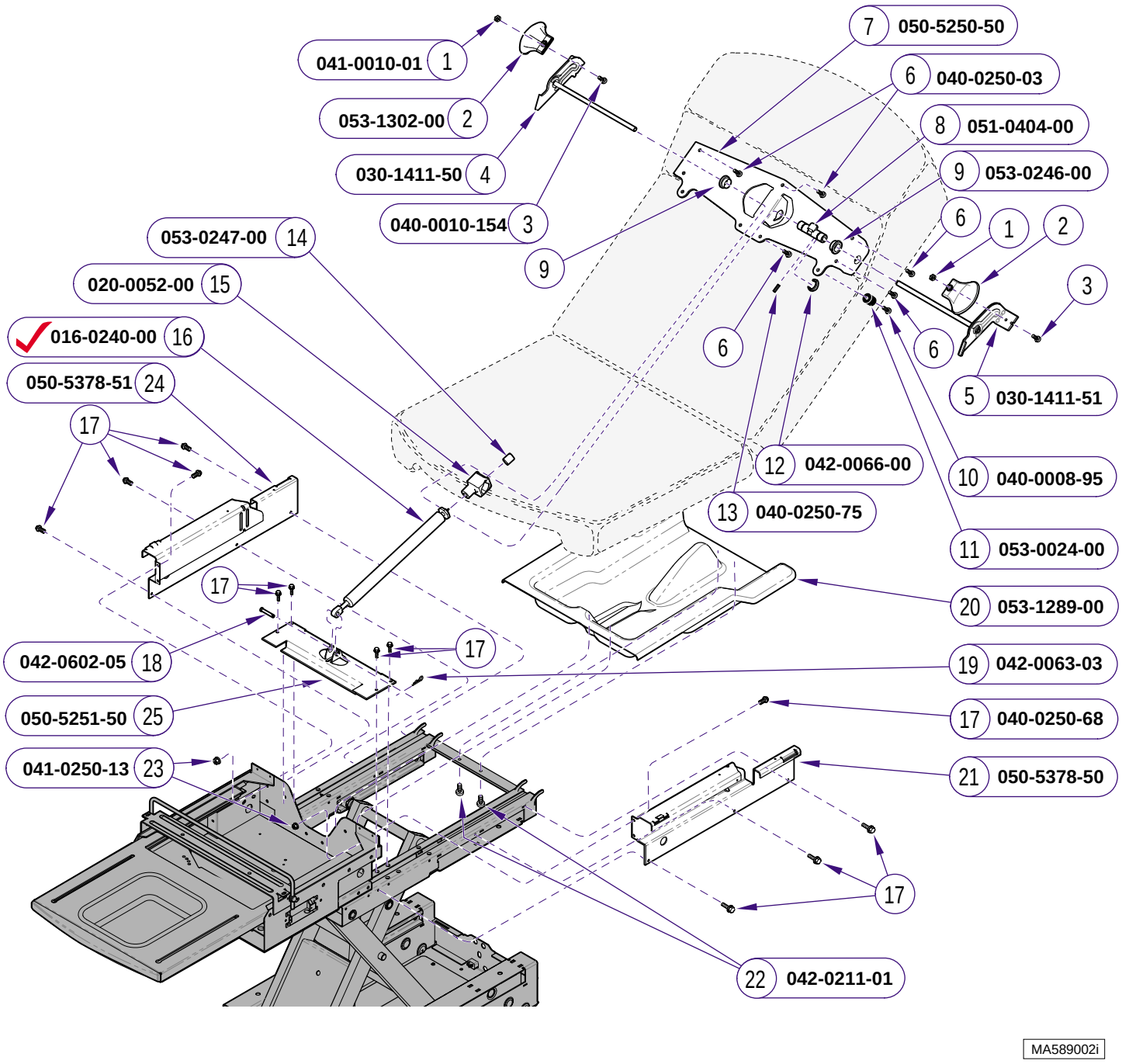
Serial Number Breaks		***622 (-002)***	***623 (-002)***
		all	all

Upholstery Components
Ultra-Premium



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Item	Description	Qty.
1	Nut	2
2	Actuator Release Handle	2
3	Screw *(10-32 x 7/16")*	1
4	R.H. Back Release Weldment	1
5	L.H. Back Release Weldment	1
6	Screw *(1/4-20 x 7/8")*	4
7	Release Support Yoke Back	1
8	Cam	1
9	Back Pivot Bearing	2
10	Wood Screw	2
11	Stem Bumper	2
12	Crescent Ring	2
13	Set Screw	2
14	Plunger	1
15	Actuator Cap	1
16	Gas Cylinder	1
17	Screw *(1/4-20 x Type F)*	16
18	Clevis Pin	1
19	Rue Ring	1
20	Top Cover	1
21	R.H. Side Support	1
22	Screw *(5mm x 20mm)*	7
23	Lock Nut	4
24	L.H. Side Support	1
25	Manual Back Release	1

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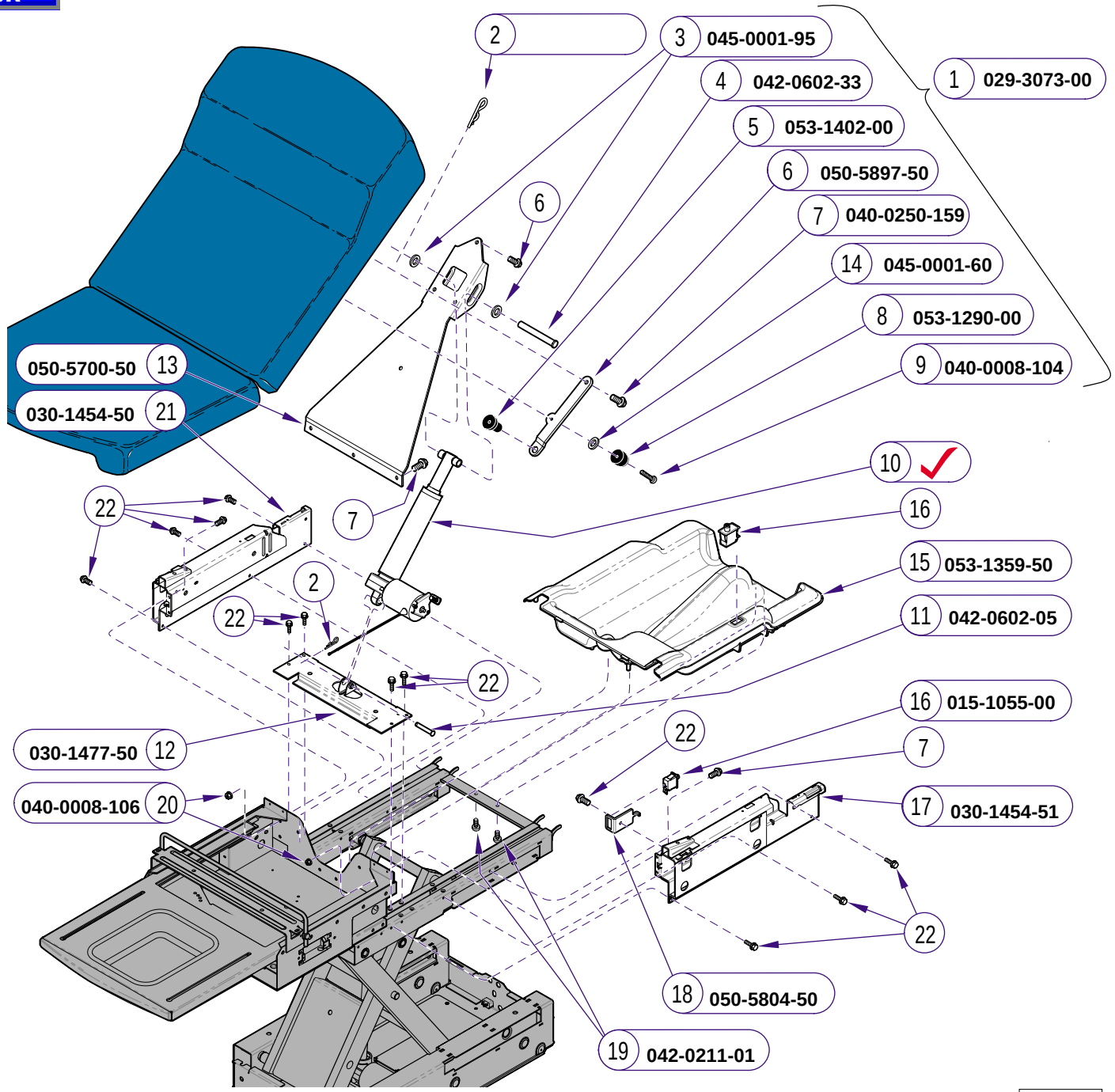
Manual Back Components

Serial Number Breaks	***222***		***622***	
	all		all	



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Item	Description	Qty.
1	Power Back Assembly *(includes items 2 thru 14)*	1
2	• Hitch Pin Clip	2
3	• Washer	2
4	• Clevis Pin	1
5	• Stem Bumper	1
6	• Limit Bumper Bracket *(leftside only)*	1
7	• Screw *(1/4-20 x .87")*	6
8	• Recess Bumper	3
9	• Screw *(#8 x 1")*	3
10	• Back Actuator Assembly (refer to *"Back Actuator"* for breakdown)	1
11	• Clevis Pin	1
12	• Back Actuator Support	1
13	• Power Back Pivot Mount	1
14	• Spacer Washer *(right side only)*	1
15	Top Cover	1
16	Limit Switch	2
17	L.H. Side Support	1
18	Switch Bracket	1
19	Screw *(metric 5 x 20mm)*	4
20	Flange Nut *(1/4-20)*	4
21	R.H. Side Support	1
22	Screw *(1/4-20 x .5")*	19

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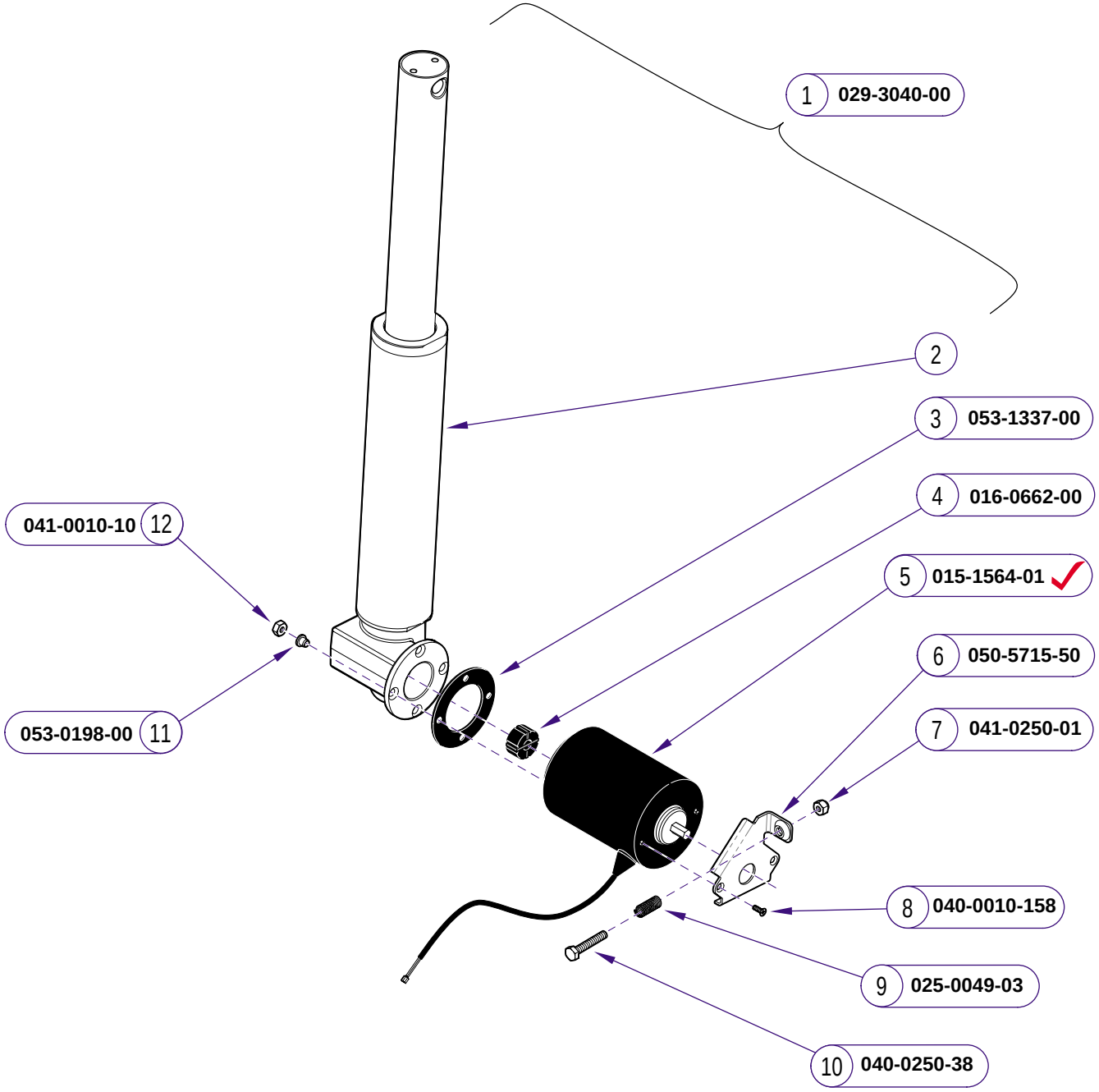
Serial Number Breaks	223	623
	all	all

Power Back Components



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Item	Description	Qty.
1	Actuator Assembly *(includes items 1 thru 12)*	1
2	• Actuator *(not available seperately)*	Ref.
3	• Motor Insulater	1
4	• Motor Coupler	1
5	• Actuator Motor	1
6	• Motor Bracket	1
7	• Nut *(1/4"-20)*	1
8	• Screw *(#10 x 32 x .25")*	2
9	• Compression Spring	1
10	• Screw *(1/4" -20 x .5")*	1
11	• Shoulder Washer	2
12	• Nut *(#10-32)*	2

Always Specify Model & Serial Number

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Serial Number Breaks	***223***	***623***
	all	all

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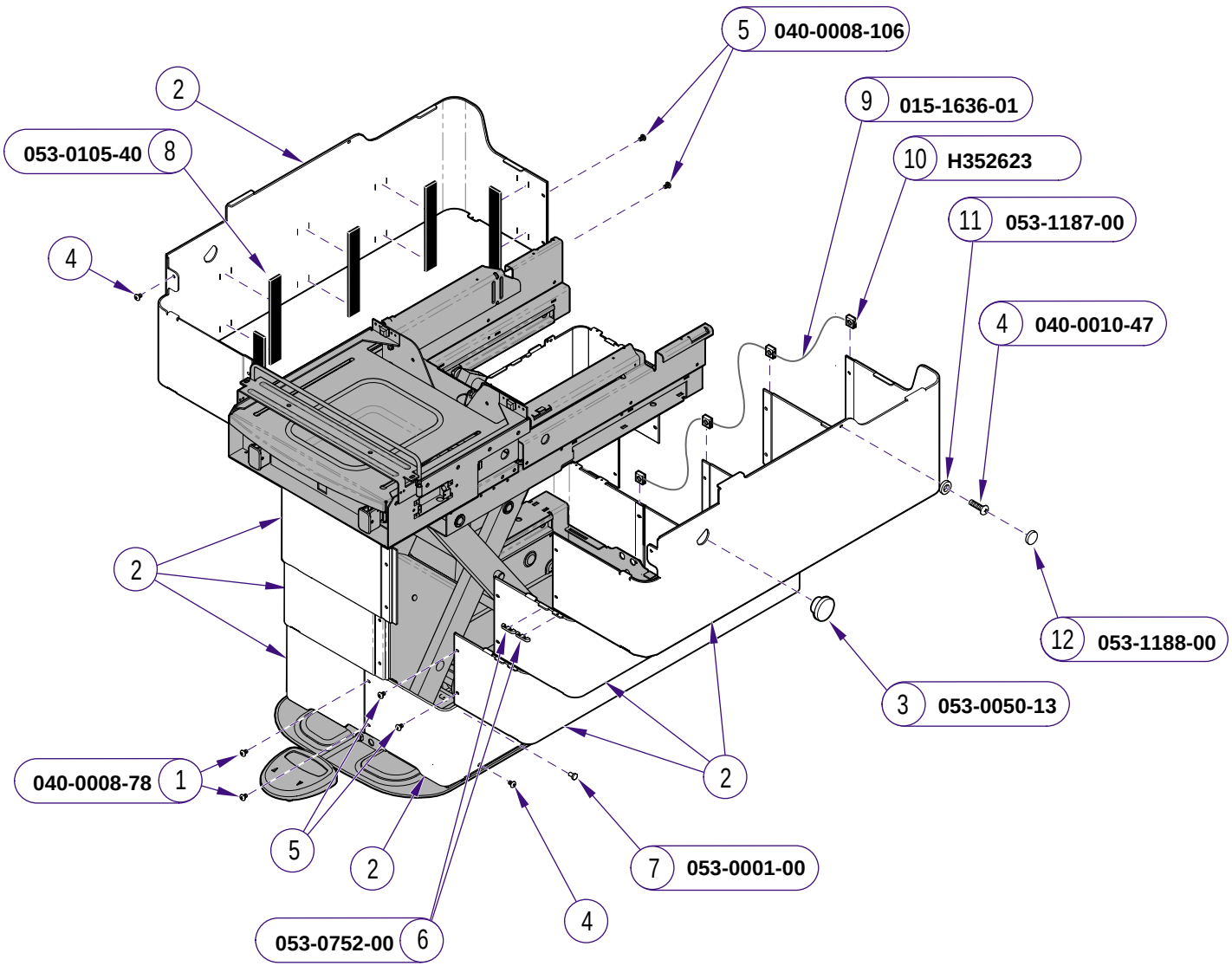

MA588806i

NOTE:
Individual shroud assemblies are not available for the serial numbers listed on this page. You must order the complete set from the next page.

Item	Description	Qty.
1	Table Shroud Components *[See note above(includes items 1 thru 10)]*	1
2	• Screw	12
3	• Shroud Assembly*(See note above)*	1
4	• Hole Plug	2
5	• Screw *(10-24 x 3/8")*	10
6	• Screw *(10-24 x 3/8")*	12
7	• Snap-on Guide	36
8	• Stem Bumper	32
9	• Velcro Loop *(1" x 7")*	6
10	• Nutsert *(not shown)*	AR
11	Braided Ground Wire	1
12	Tinnerman Clip	3
13	Screw Cover Base	2
14	Screw Cover	2

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Serial Number Breaks ***222***

RG1000	thru	RG1530	RJ1000	thru	RJ1312
RH1000	thru	RH1820	RK1000	thru	RK2334
RH1831	thru	RH1832	RL1000	thru	RL1060
			RM1000	thru	RM1015

Table Shrouds
(222)

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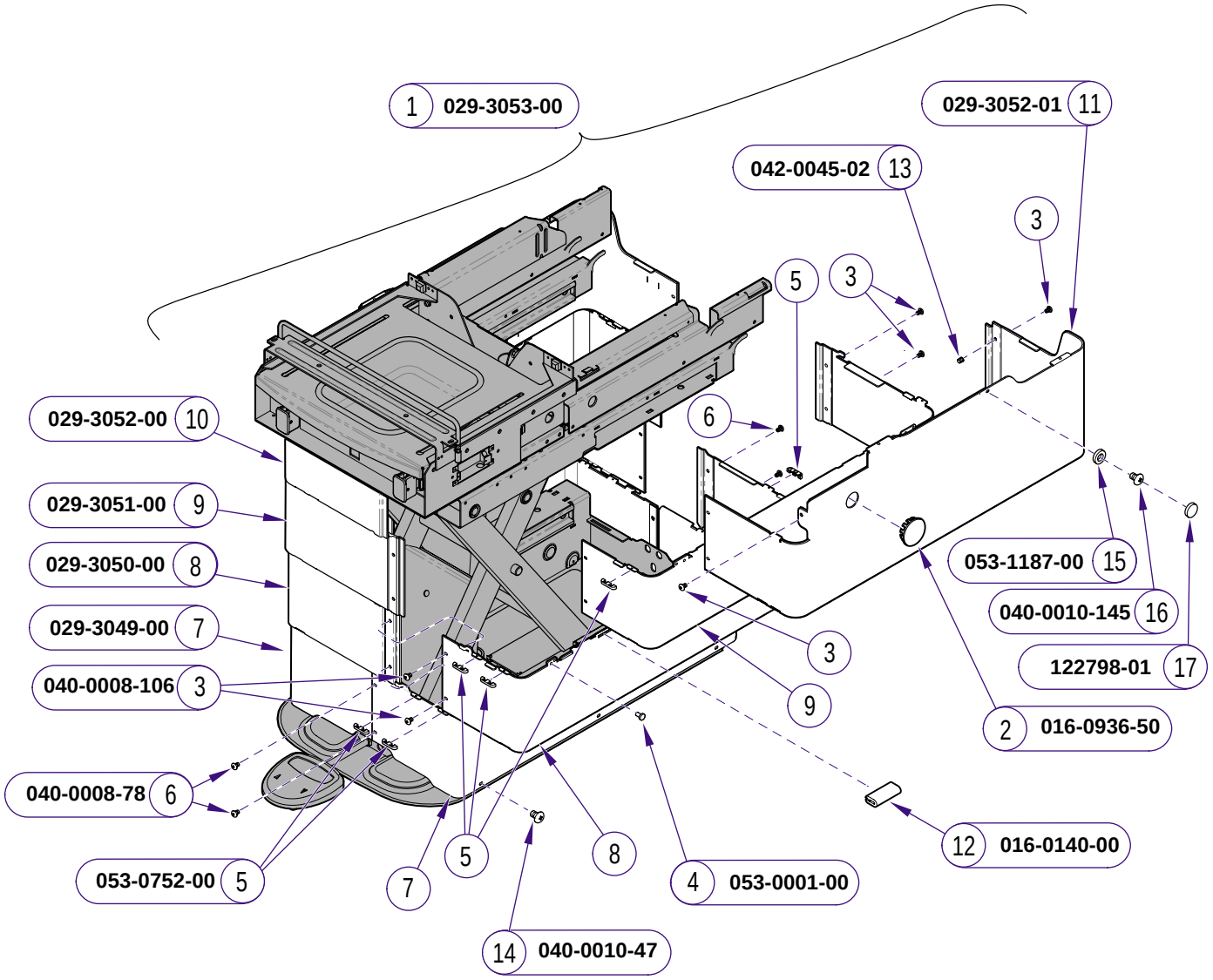

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Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 thru 14)*	1
2	• Hole Plug	2
3	• Screw *(#8-32 x .25")*	12
4	• Stem Bumper	32
5	• Snap-on Guide	36
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12 & 13)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, 13 & 14)*	2
10	• R.H. Outer Shroud Assembly *(includes items 4, 5, 13 & 14)*	1
11	• L.H. Outer Shroud Assembly *(includes items 5, 13 & 14)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw *(10-24 x 3/8")*	6
15	Screw Cover Base	2
16	Screw *(10-24 x 3/8")*	2
17	Screw Cover	2

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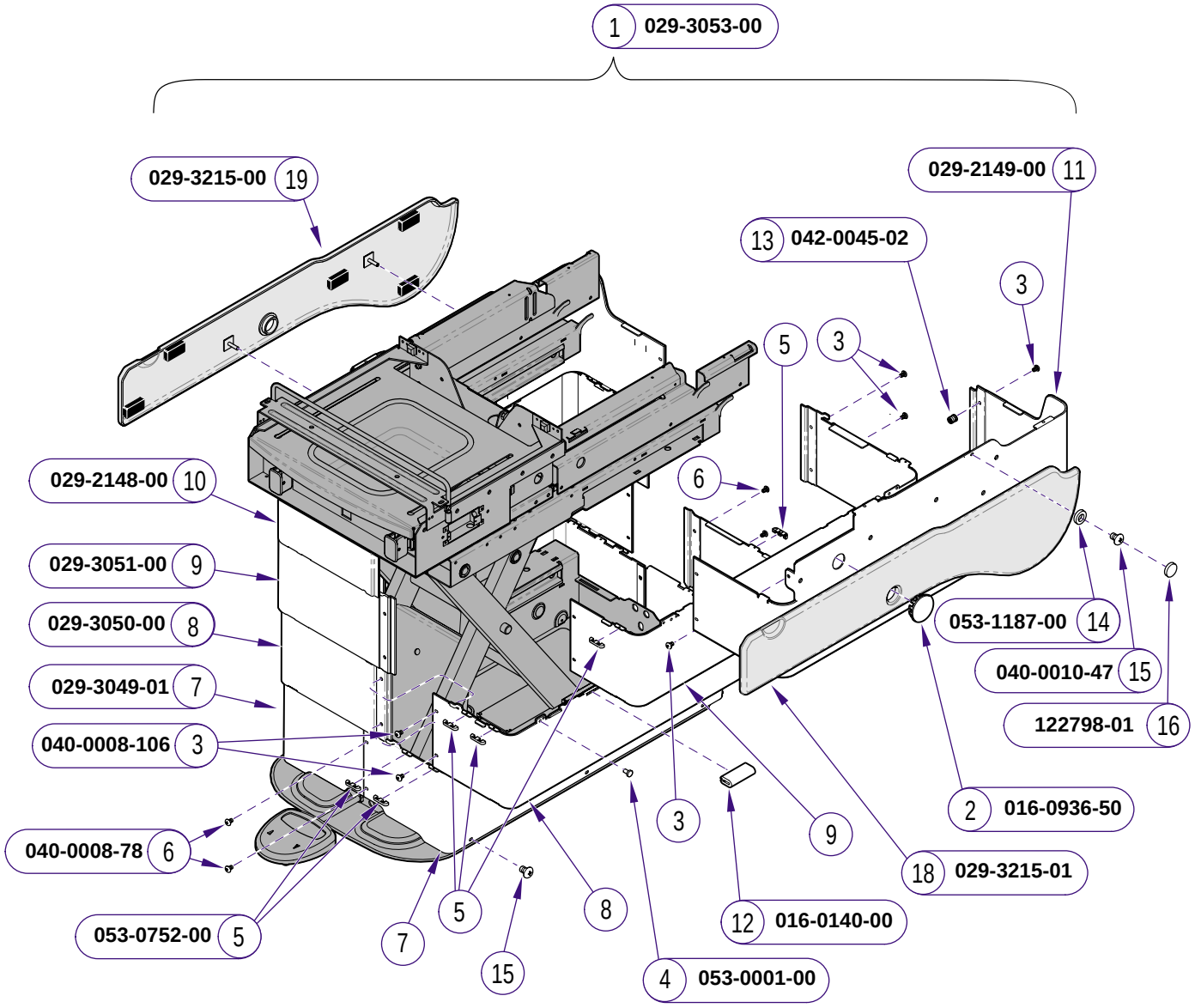
Table Shrouds
(222 / 223)

Serial Number Breaks	***222***			***223***		
	RG1531	thru	Present	RJ1313	thru	Present
	RH1821	thru	RH1830	RK2335	thru	Present
	RH1833	thru	Present	RL1061	thru	Present
				RM1016	thru	Present
				SC1000	thru	Present
				SD1000	thru	Present
				SE1000	thru	Present
				SF1000	thru	Present
				SG1000	thru	Present
				SH1000	thru	Present



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Item	Description	Qty.
1	Table Shroud Assembly Set *(includes items 2 thru 14)*	1
2	• Hole Plug	2
3	• Screw *(#8 -32 x .25")*	12
4	• Stem Bumper	32
5	• Snap-on Guide	36
6	• Screw *(#8 -32 x .25")*	4
7	• Inner Shroud Assembly *(includes items 13)*	2
8	• Mid Inner Shroud Assembly *(includes items 4, 5, 12 & 13)*	2
9	• Mid Outer Shroud Assembly *(includes items 4, 5, 13 & 14)*	2
10	• R.H. Outer Shroud Assembly *(includes items 4, 5, 13 & 14)*	1
11	• L.H. Outer Shroud Assembly *(includes items 5, 13 & 14)*	1
12	• Trim Lock	4
13	• Nutsert	18
14	Screw Cover Base	2
15	Screw *(10-24 x 3/8")*	10
16	Screw Cover	2
17	L.H. Cladding Assembly	1
18	R.H. Cladding Assembly	1

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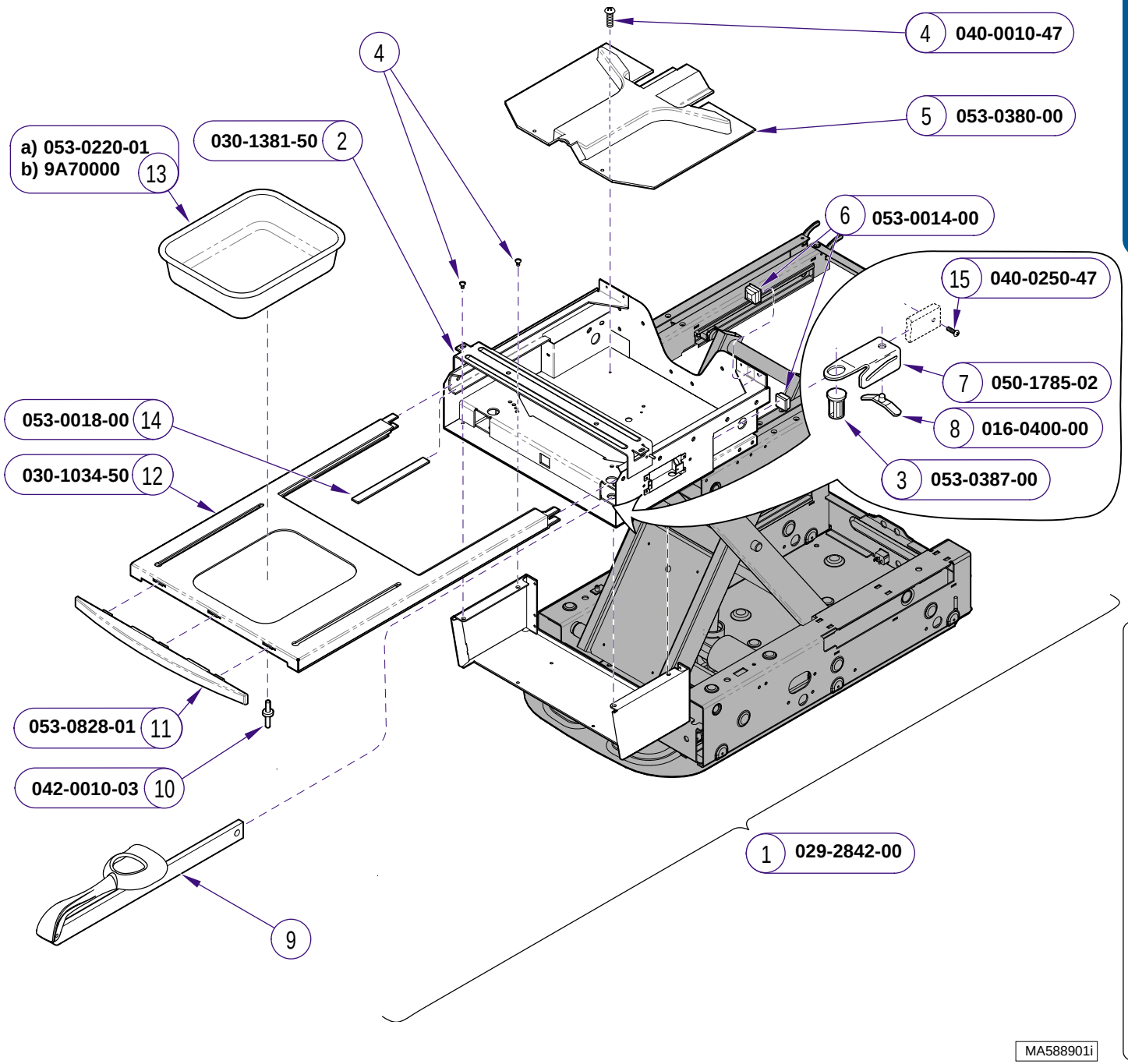
MA637801i

Serial Number Breaks			622	623
			all	all

Table Shrouds
(622 / 623)



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Item	Description	Qty.
1	Table Top Section *(includes items 1 thru 15)*	1
2	• Upper Wrap Weldment	1
3	• Pivot Boss	2
4	• Screw *(10-24 x 3/8")*	6
5	• Stirrup Guide	1
6	• Bumper	4
7	• Stirrup Guide Bracket	2
8	• Stirrup Spring	2
9	• Stirrup Assembly *(refer to "Stirrup Assembly" for breakdown)*	2
10	• Pop Rivot	2
11	• Foot Rest Trim	1
12	• Foot Rest	1
13a	• Plastic Treatment Pan	1
13b	Stainless Steel Treatment Pan	Optional
14	• Nylon Tape	2
15	• Screw *(1/4-20 x 5/8")*	4

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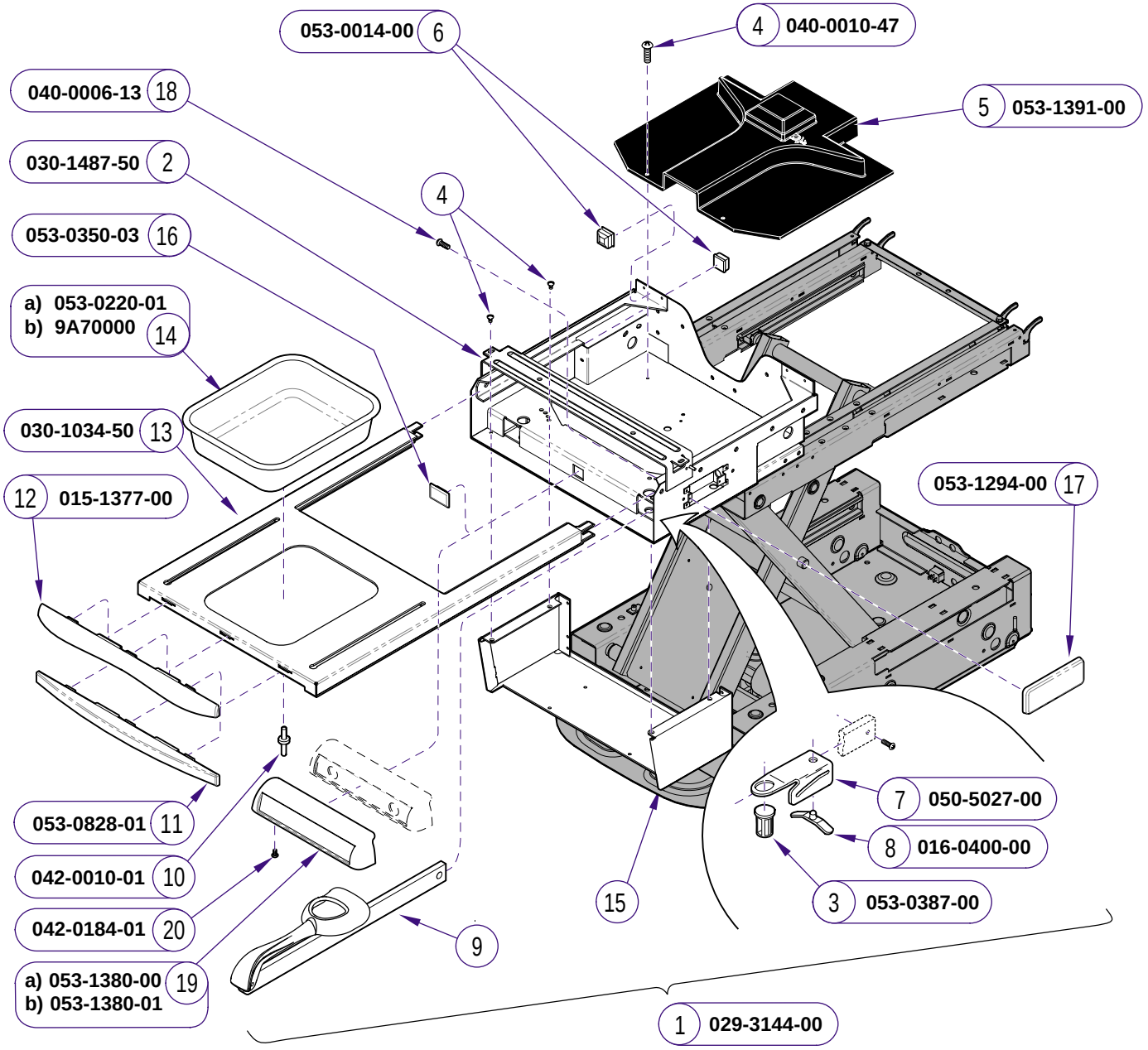
Upper Wrap Components

(222)

Serial Number Breaks

222

RG1000	thru	RG1123	RK1000	thru	RK1266
RH1000	thru	RH1386	RL1000	thru	RL1000
RJ1000	thru	RJ1094	RM1000	thru	RM1000



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Item	Description	Qty.
1	Seat Wrap Assembly	1
	(includes items 1 thru 14)	
2	• Upper Wrap Weldment	1
3	• Pivot Boss	2
4	• Screw	4
5	• Stirrup Guide	1
6	• Bumper	4
7	• Stirrup Guide Bracket	2
8	• Stirrup Spring	2
9	• Stirrup Assembly	2
	(refer to "Stirrup Assembly" for breakdown)	
10	• Pop Rivot	2
11	• 222/223 Foot Rest Shelf Pull	1
12	• 622/623 Foot Rest Shelf Pull	1
13	• Foot Rest	1
14a	• Plastic Treatment Pan	1
14b	• Stainless Steel Treatment Pan	Optional
15	Drawer Housing	1
	(refer to "Exam Assistants Drawer Assembly" for breakdown)	
16	Plug *(used on units w/o drawer heater)*	1
17	Cover *(used on units w/o receptacle)*	1
18	Screw *(used on units w/o receptacle)*	1
19a	Switch Mount *([622/623 only] w/o switches)*	1
19b	Switch Mount *([622/623 only] w/ switches)*	1
20	Screw (4 x 12 mm *[622/623 only]*)	2

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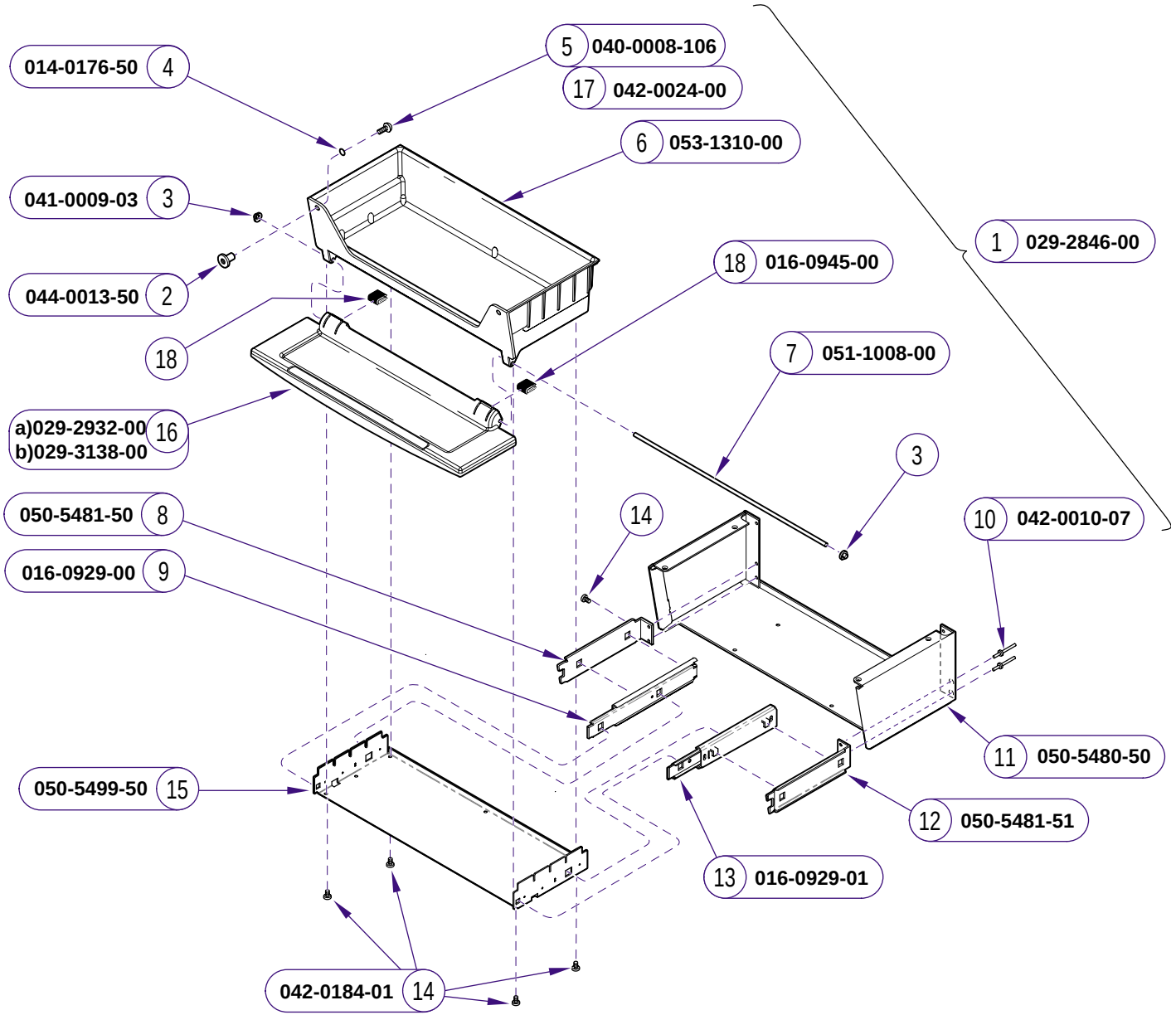
Serial Number Breaks

222	***223***	***622***	***623***
RG1124 thru Present	all	all	all
RH1387 thru Present			
RJ1095 thru Present			
RK1267 thru Present			
RL1001 thru Present			
RM1001 thru Present			

Upper Wrap Components

(222 / 223 / 622 / 623)



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Item	Description	Qty.
1	Exam Assistant™ Drawer Assembly *(includes items 1 thru 18)*	
2	• Nuts	2
3	• Push Nut	2
4	• O-Ring	2
5	• Screw *(#8 x 32 x 1/4")*	2
6	• Storage Drawer	1
7	• Drawer Pivot Rod	1
8	• R.H. Drawer Slide Bracket	1
9	• R.H. Drawer Slide	1
10	• Pop Rivot	4
11	• Drawer Housing	1
12	• L.R. Drawer Slide Bracket	1
13	• L.R. Drawer Slide	1
14	• Screws *(M4.0-1.79 x 12mm)*	5
15	• Drawer Heat Sink	1
16a	• 222/223 Drawer Front Assembly	1
16b	• 622/623 Drawer Front Assembly	1
17	• Medium Strength Adhesive	AR
18	• Edge Trim	2

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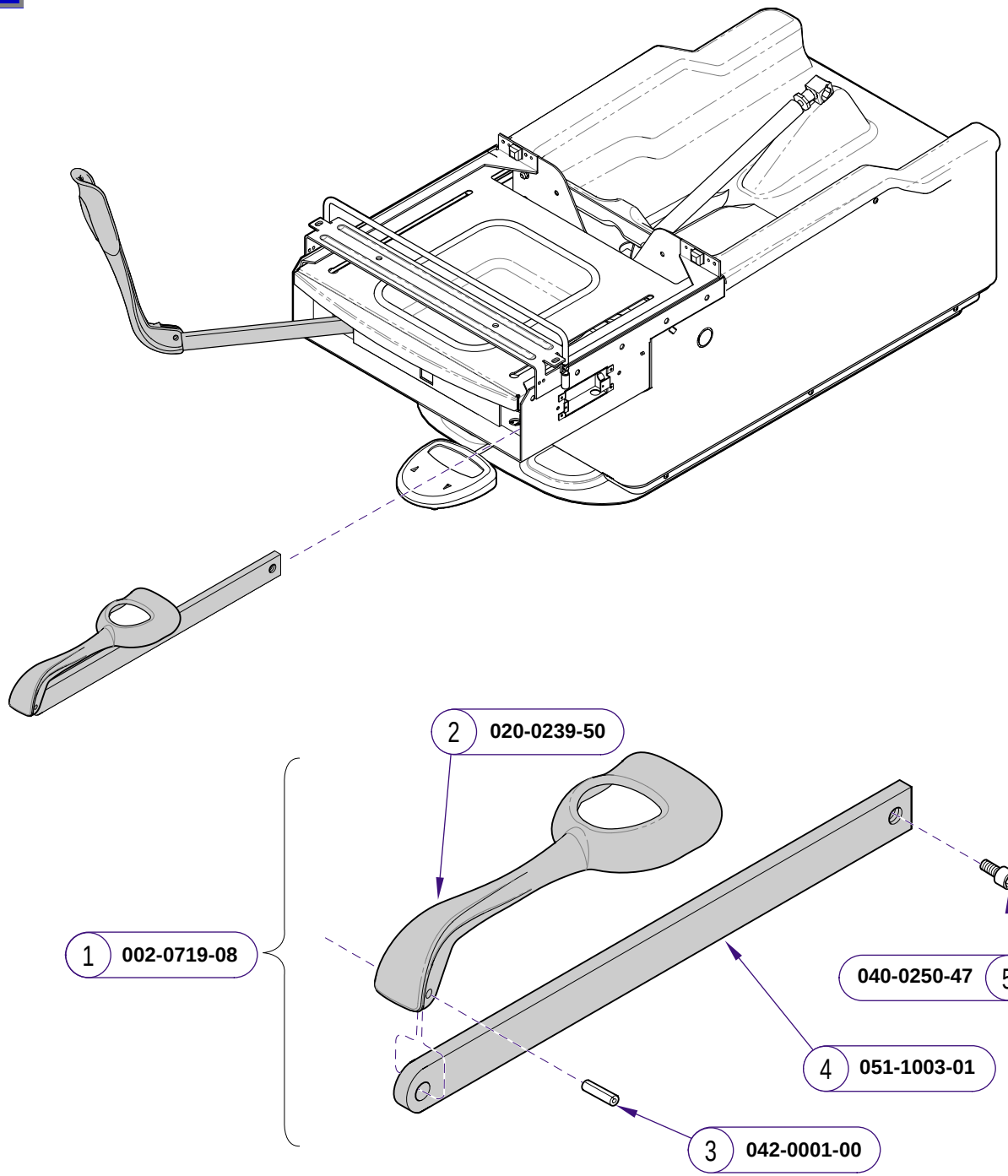
Exam Assistant®

Drawer Assembly

Serial Number Breaks	***222***	***223***	***622***	***623***
	all	all	all	all



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Item	Description	Qty.
1	Stirrup Assembly *(includes items 2 thru 4)*	2
2	• Stirrup	1
3	• Roll Pin	1
4	• Horizontal Stirrup Bar	1
5	Screw	1

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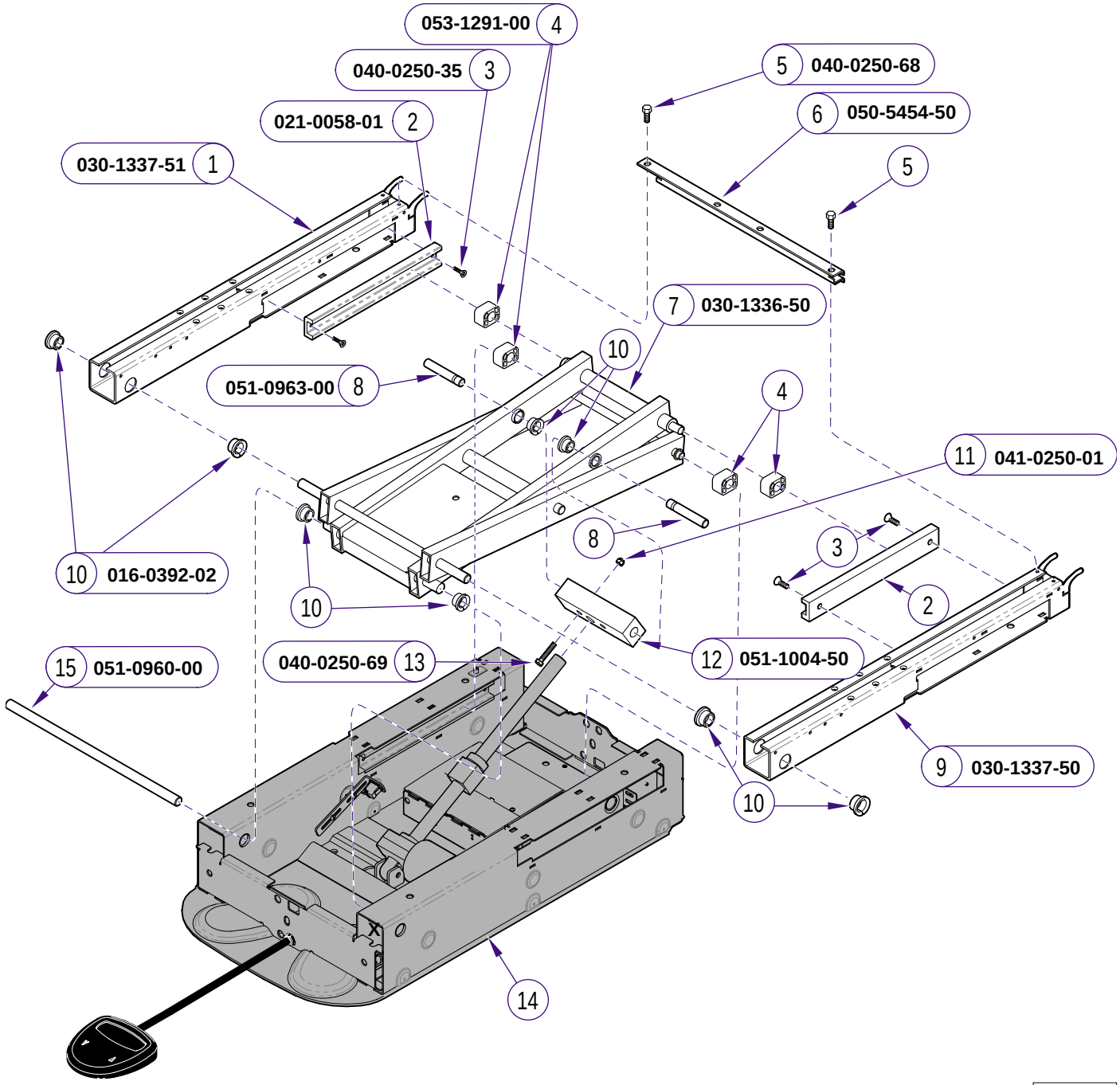
Serial Number Breaks	222	223	622	623
	all	all	all	all

Stirrup Assembly



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Item	Description	Qty.
1	R.H. Scissor Channel Weldment	1
2	Extrusion Slide	2
3	Flat Head Screw *(1/4-20 x .5")*	4
4	Bearing Guide	4
5	Screw *(1/4-20 type F)*	2
6	Top Cover Support Channel	1
7	Scissor Arm Weldment	1
8	Stub Shaft	2
9	L.H. Scissor Channel Weldment	1
10	Flange Bearing	8
11	Lock Nut	2
12	Thru Block	1
13	Screw *(1/4-20 x 2.25")*	2
14	Base Weldment	1
	(refer to "Base Components" for breakdown)	
15	Pivot Shaft	1

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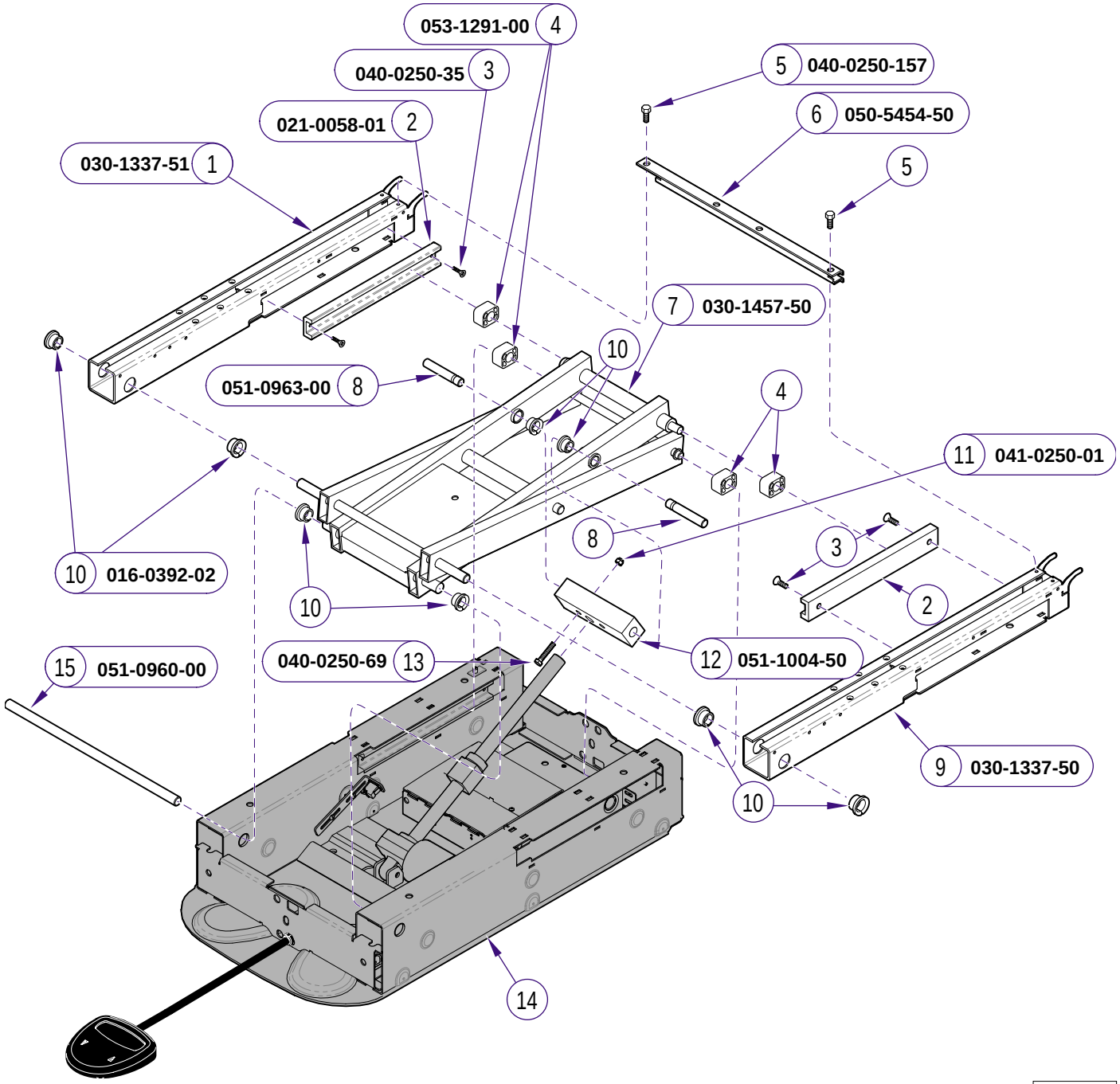
Scissor Mechanism

(222)

222

Serial Number Breaks							
	RG1000	thru	RG1123	RK1000	thru	RK1266	
	RH1000	thru	RH1386	RL1000			
	RJ1000	thru	RJ1094	RM1000			



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Item	Description	Qty.
1	R.H. Scissor Channel Weldment	1
2	Extrusion Slide	2
3	Screw *(1/4-20 x .5")*	4
4	Bearing Guide	4
5	Screw *(1/4-20 type F)*	2
6	Top Cover Support Channel	1
7	Scissor Arm Weldment	1
8	Stub Shaft	2
9	L.H. Scissor Channel Weldment	1
10	Flange Bearing	8
11	Lock Nut	2
12	Thru Block	1
13	Screw *(1/4-20 x 2.25")*	2
14	Base Weldment	1
	(Refer to "Base Components" for breakdown)	
15	Pivot Shaft	1

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Serial Number Breaks

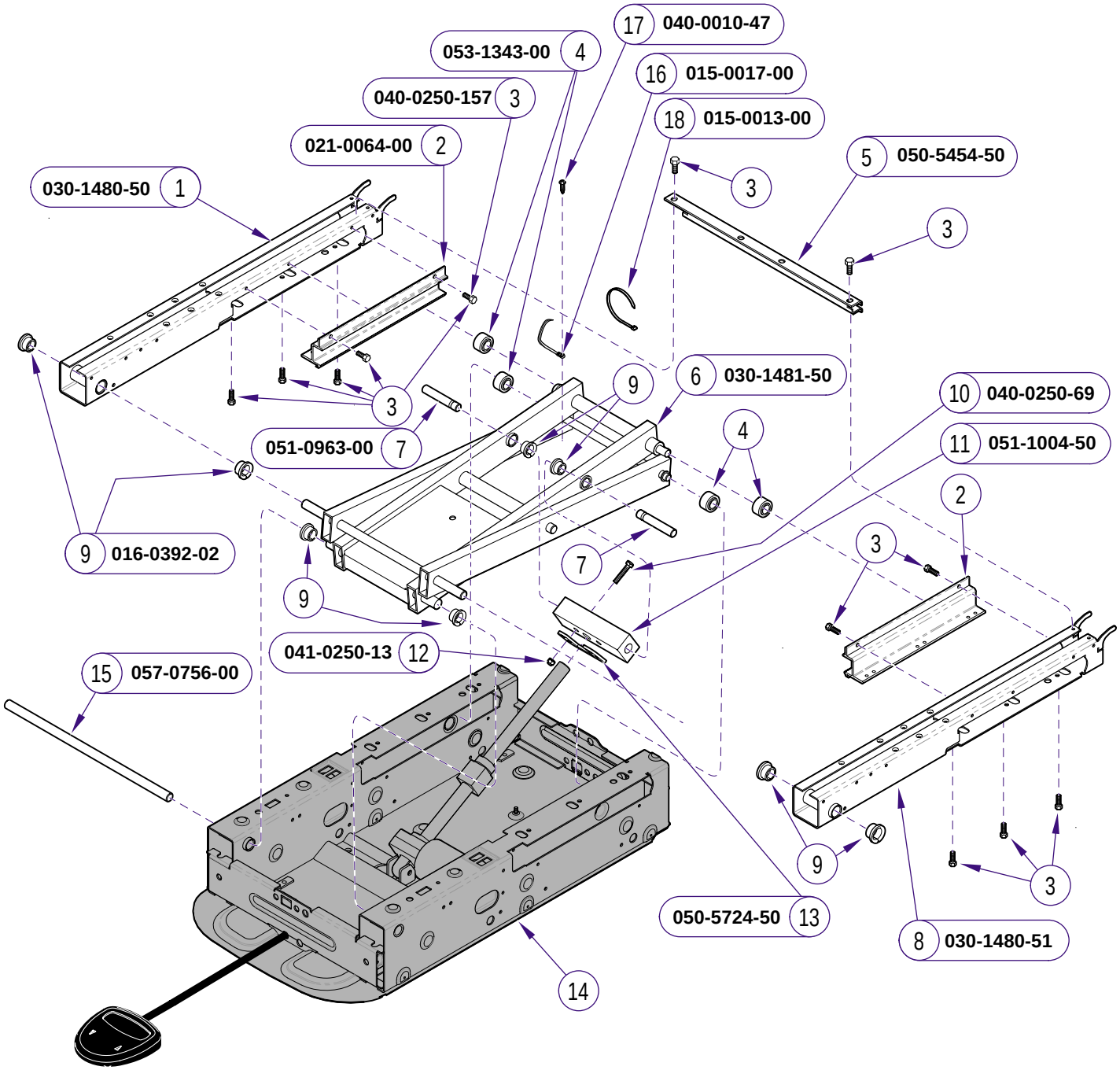
222

RG1124 thru RG1530
RH1387 thru RH1820
RH1830

RJ1095 thru RJ1312
RK1267 thru RK1334
RL1001 thru RL1060
RM1001 thru RM1015

Scissor Mechanism

(222)



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Item	Description	Qty.
1	R.H. Scissor Channel Weldment	1
2	Extrusion Slide	2
3	Screw *(1/4"-20 x .5")*	12
4	Bearing Guide	4
5	Top Cover Support Channel	1
6	Scissor Arm Weldment	1
7	Stub Shaft	2
8	L.H. Scissor Channel Weldment	1
9	Flange Bearing	8
10	Screw *(1/4"-20 x 2.25")*	2
11	Thru Block	1
12	Lock Nut *(1/4"-20)*	2
13	Thru Block Bracket	1
14	Base Weldment	1
	(refer to "Upper Wrap Comp." for breakdown)	
15	Pivot Shaft	1
16	Cable Tie	3
17	Screw *(10-24 x .37")*	3
18	Cable Tie	1

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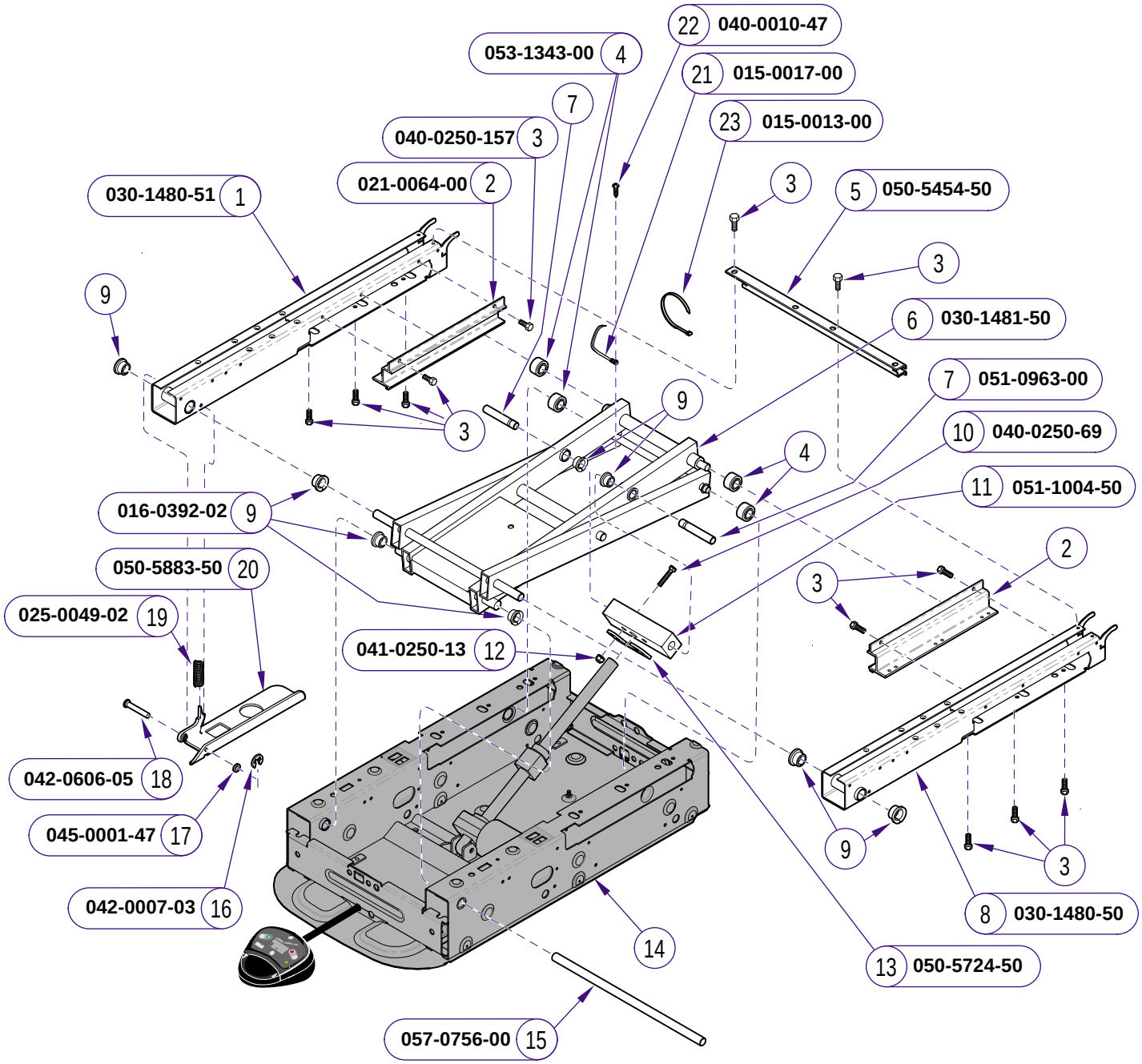
Scissor Mechanism

(222 / 223)

Serial Number Breaks	***222***			***223***
	RG1531	thru Present	RJ1313 thru Present	all
	RH1821	thru RH1830	RK1336 thru Present	
	RH1833	thru Present	RL1061 thru Present	
			RM1016 thru Present	



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Item	Description	Qty.
1	R.H. Scissor Channel Weldment	1
2	Extrusion Slide	2
3	Screw *(1/4"-20 x .5")*	12
4	Bearing Guide	4
5	Top Cover Support Channel	1
6	Scissor Arm Weldment	1
7	Stub Shaft	2
8	L.H. Scissor Channel Weldment	1
9	Flange Bearing	8
10	Screw *(1/4"-20 x 2.25")*	2
11	Thru Block	1
12	Lock Nut *(1/4"-20)*	2
13	Thru Block Bracket	1
14	Base Weldment *(refer to "Upper Wrap Comp. for breakdown")*	1
15	Pivot Shaft	1
16	E-clip	1
17	Washer	1
18	Clevis Pin	1
19	Spring	1
20	Auto-return Switch Strike	1
21	Cable Tie	3
22	Screw *(10-24 x .37")*	3
23	Cable Tie	1

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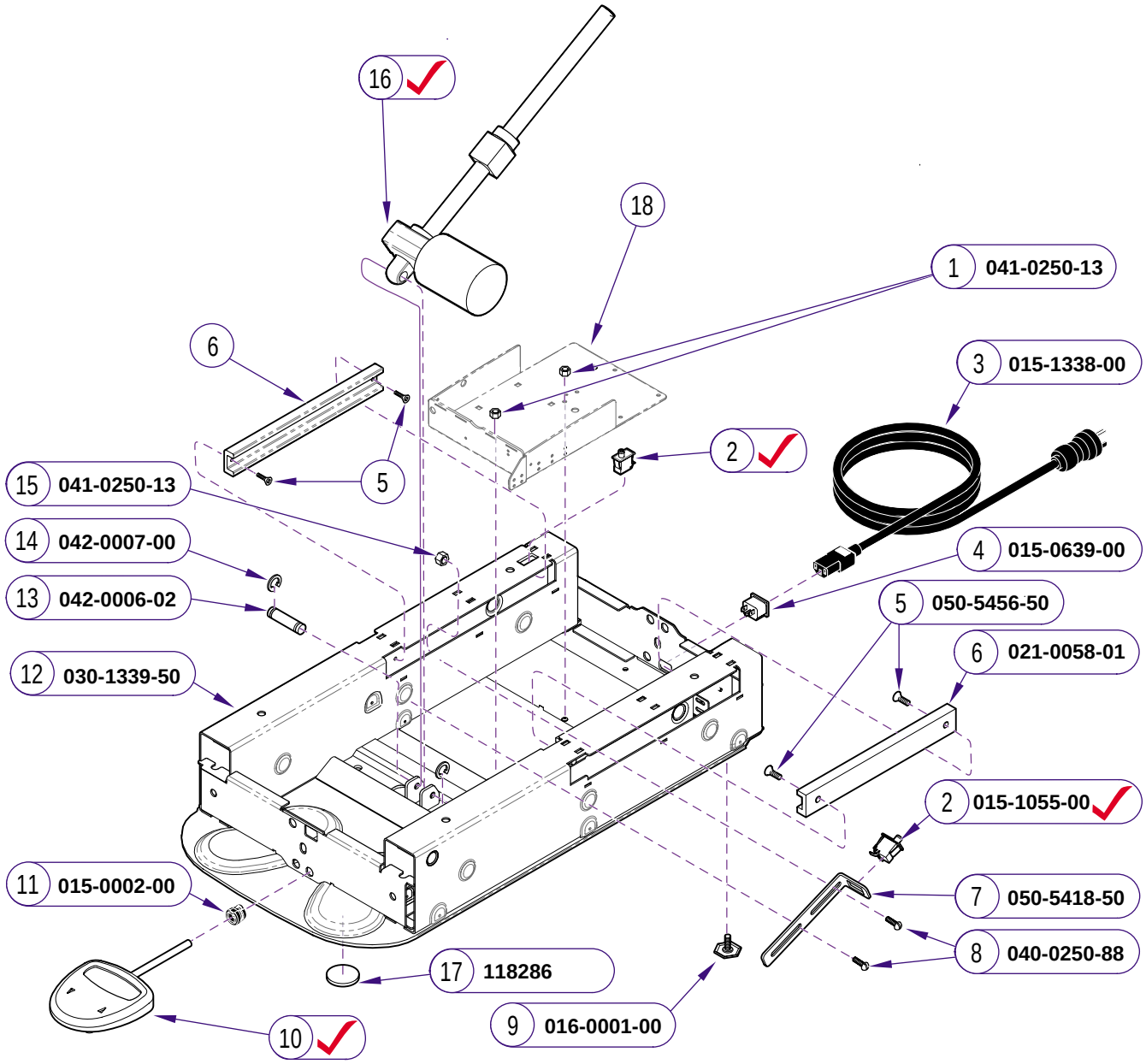
Serial Number Breaks		***622***	***623***
		all	all

Scissor Mechanism

(622 / 623)



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Item	Description	Qty.
1	Nut	2
2	Limit Switch	2
3	Power Cord	1
4	IEC Inlet	1
5	Flat Head Screw	4
6	Slide	2
7	Limit Switch Bracket	1
8	Screw	2
9	Leveling Screw	2
10	Foot Control Assembly	1
	(refer to "Foot Control Assm." for breakdown)	
11	Stress Relief	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Nut	2
16	Base Actuator	1
	(refer to"Base Actuator Assm." for breakdown)	
17	Chair Base Pad	2
18	PC Board Enclosure	1
	(refer to "PC board Enclosure" for breakdown)	

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222

Serial Number Breaks							
RG1000	thru	RG1123	RK1000	thru	RK1266		
RH1000	thru	RH1386	RL1000				
RJ1000	thru	RJ1094	RM1000				

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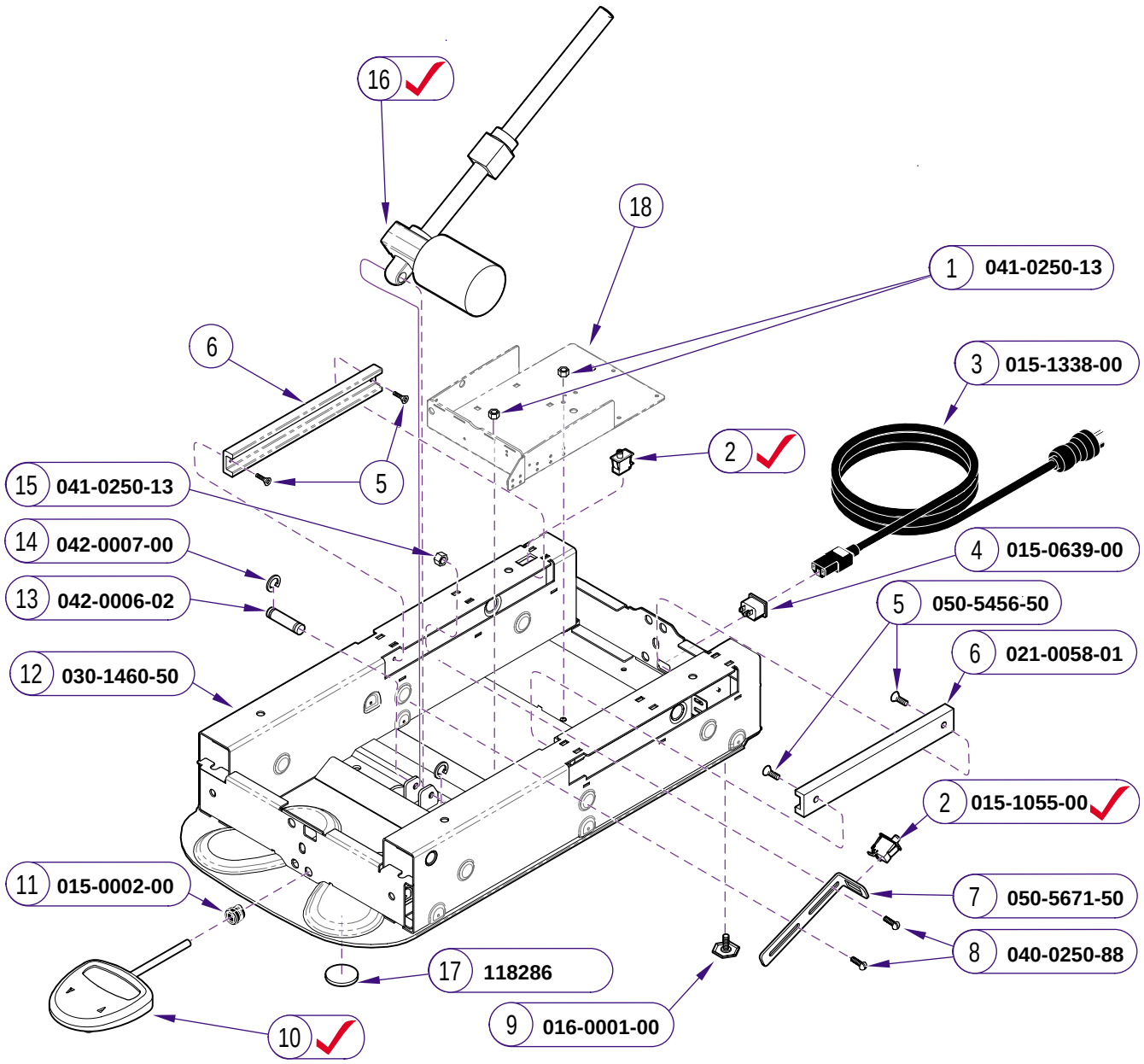

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Item	Description	Qty.
1	Nut	2
2	Limit Switch	2
3	Power Cord	1
4	IEC Inlet	1
5	Flat Head Screw	4
6	Slide	2
7	Limit Switch Bracket	1
8	Screw	2
9	Leveling Screw	2
10	Foot Control Assembly	1
	(refer to "Foot Control Assm." for breakdown)	
11	Stress Relief	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Nut	2
16	Base Actuator	1
	(refer to "Base Actuator Assm." for breakdown)	
17	Chair Base Pad	2
18	PC Board Enclosure	1
	(refer to "PC board Enclosure" for br	

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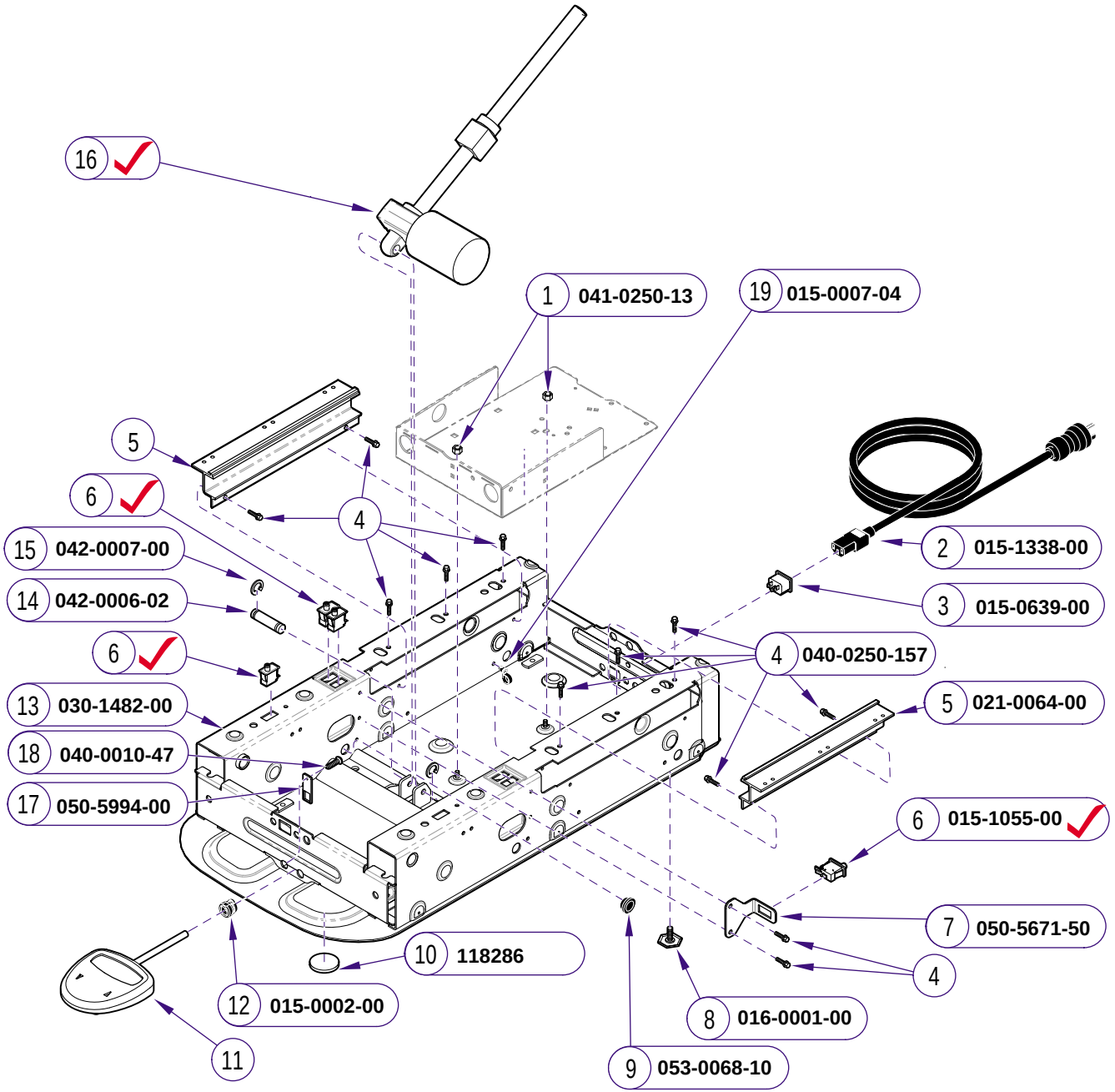
Serial Number Breaks — ***222***

RG1124	thru	RG1530	RJ1095	thru	RJ1312
RH1387	thru	RH1821	RK1267	thru	RK1334
RH1831	thru	RH1832	RL1001	thru	RL1060
			RM1001	thru	RM1015

Base Components

(222)



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Item	Description	Qty.
1	Nut	2
2	Power Cord	1
3	IEC Inlet	1
4	Screw	12
5	Slide	2
6	Limit Switch	2
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Chair Base Pad	2
11	Foot Control Assembly	1
	(refer to specific "Foot Control" for breakdown)	
12	Strain Relief Bushing *(222 only)*	1
13	Base Weldment	1
14	Clevis Pin	1
15	E-Ring	2
16	Base Actuator Assembly	1
	(refer to "Base Actuator" for breakdown)	
17	Modular Plug Adapter Plate *(223 only)*	1
18	Screw *(223 only)*	1
19	Wrap-N-Tap Wire Clamp	2
20	PC Board Enclosure	1
	(refer to "PC board Enclosure" for br	

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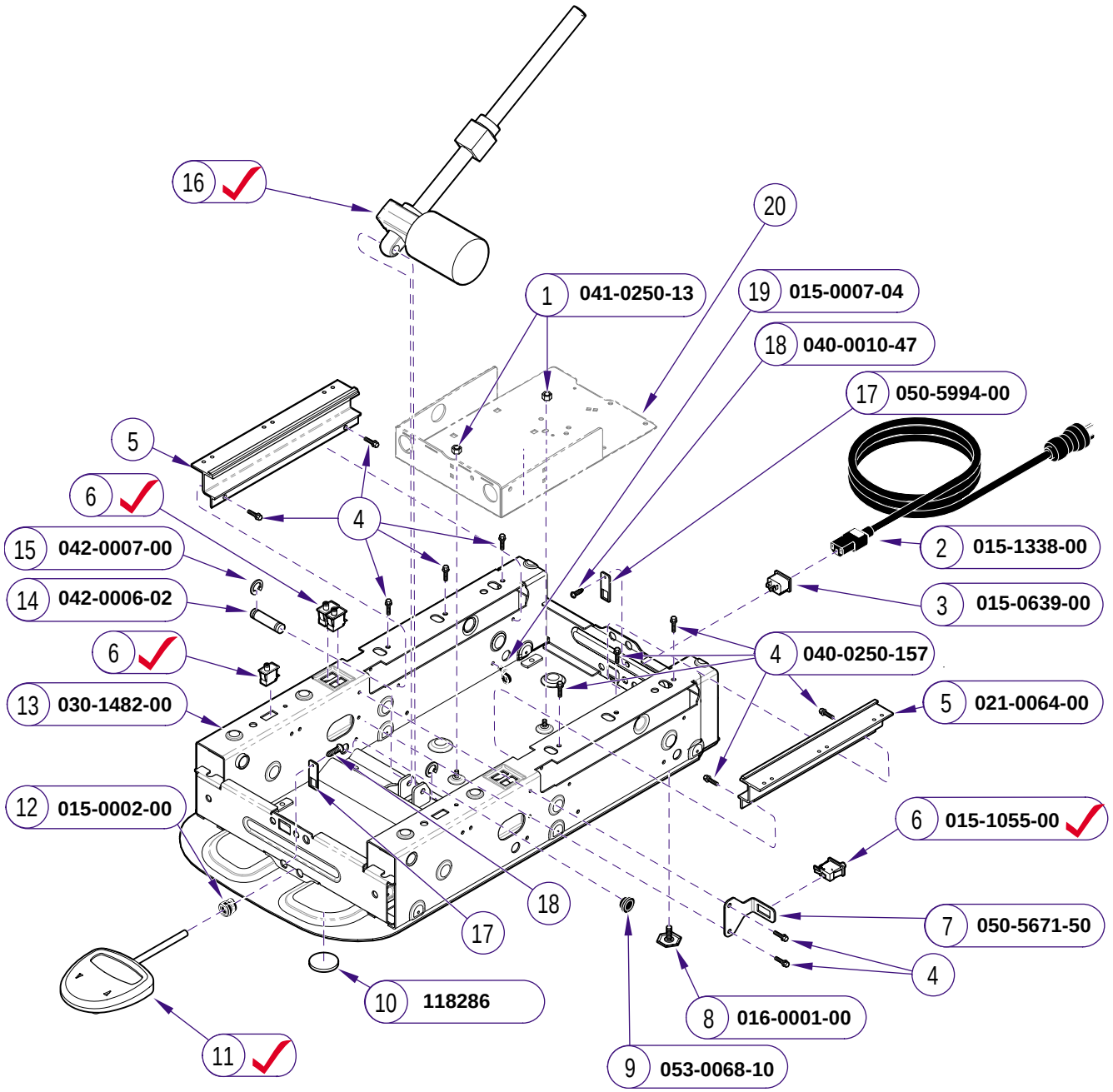
Base Components

(222 / 223)

Serial Number Breaks	***222***			***223***
	RG1531	thru	Present	all
	RH1821	thru	RH1830	
	RH1833	thru	Present	
	RJ1313	thru	Present	
	RK1335	thru	Present	
	RL1061	thru	Present	
	RM1016	thru	Present	



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Item	Description	Qty.
1	Nut	2
2	Power Cord	1
3	IEC Inlet	1
4	Screw	12
5	Slide	2
6	Limit Switch	4
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Chair Base Pad	2
11	Foot Control Assembly	1
	(refer to specific "Foot Control" for breakdown)	
12	Strain Relief Bushing *(622 only)*	1
13	Base Weldment	1
14	Clevis Pin	1
15	E-Ring	2
16	Base Actuator Assembly	1
	(refer to "Base Actuator" for breakdown)	
17	Modular Plug Adapter Plate *(622)*	1
	Modular Plug Adapter Plate *(623)*	2
18	Screw *(622)*	1
	Screw *(623)*	2
19	Wrap-N-Tap Wire Clamp	2
20	PC Board Enclosure	1
	(refer to "PC board Enclosure" for breakdown)	

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Serial Number Breaks		***622***	***623***
		all	all

Base Components

(622 / 623)

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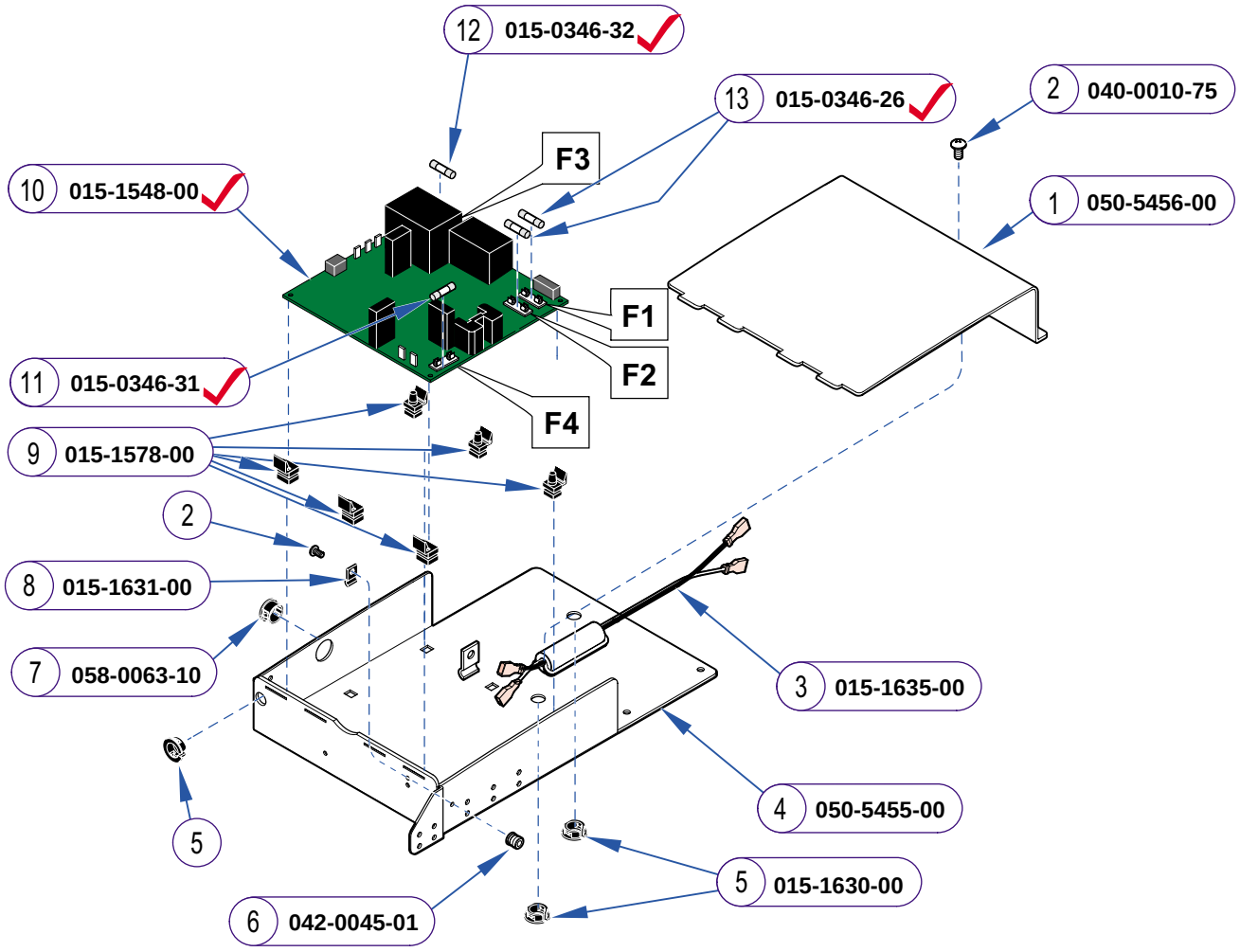

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Item	Description	Qty.
1	Cover	1
2	Screw *(10-24 x .37")*	2
3	Motor Core Assembly	1
4	Base Plate	1
5	Split Grommet	3
6	Nutsert	2
7	Snap Bushing	1
8	Cable Clamp	1
9	PC Board Standoff	6
10	PC Board *(1 function)*	1
11	Slo-blo Fuse *(5 amp, 250v, .25" x 1.25")*	1
12	Slo-blo Fuse *(.18 amp, 250v, .25" x 1.25")*	1
13	Slo-blo Fuse *(10 amp, 250v, .25" x 1.25")*	2

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PC Board / Enclosure
(222)

Serial Number Breaks — ***222***

RG1000	thru	RG1678	RK1000	thru	RK2693
RH1000	thru	RH1921	RL1000	thru	RL1063
RJ1000	thru	RJ1343	RM1000	thru	RM1028

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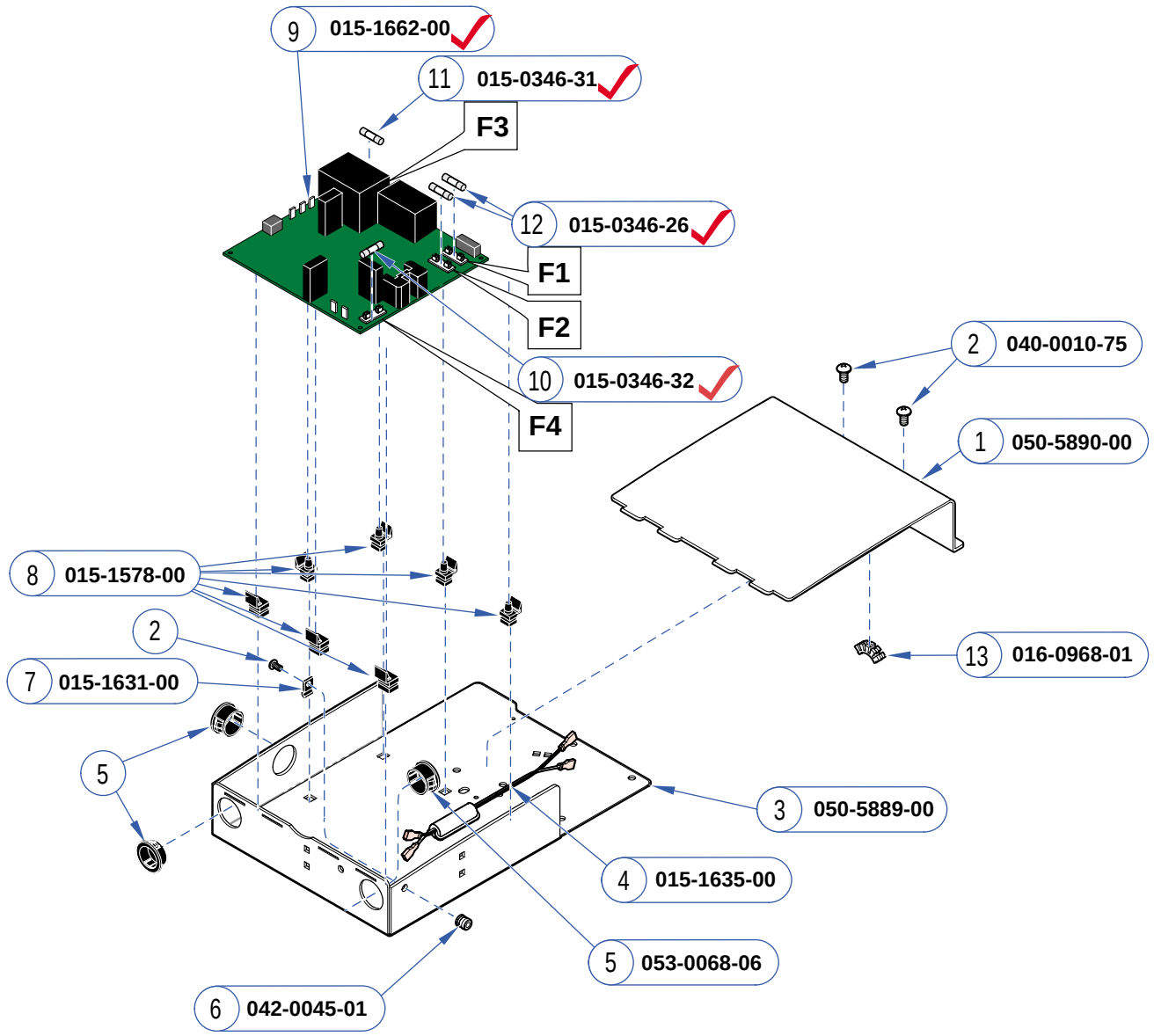

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Item	Description	Qty.
1	Cover	1
2	Screw *(10-24 x .37")*	2
3	Base Plate	1
4	Motor Core Assembly	1
5	Split Grommet	3
6	Nutsert	2
7	Cable Clamp	1
8	PC Board Standoff	7
9	PC Board *(1 function)*	1
10	Slo-blo Fuse *(5 amp, 250v, .25" x 1.25")*	1
11	Slo-blo Fuse *(.18 amp, 250v, .25" x 1.25")*	1
12	Slo-blo Fuse *(10 amp, 250v, .25" x 1.25")*	2
13	Plastic Edge Trim	1

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Serial Number Breaks	***222***		***622***
	RG1679 thru Present	RK2694 thru Present	all
	RH1922 thru Present	RL1064 thru Present	
	RJ1344 thru Present	RM1029 thru Present	

PC Board / Enclosure

(222 / 622)

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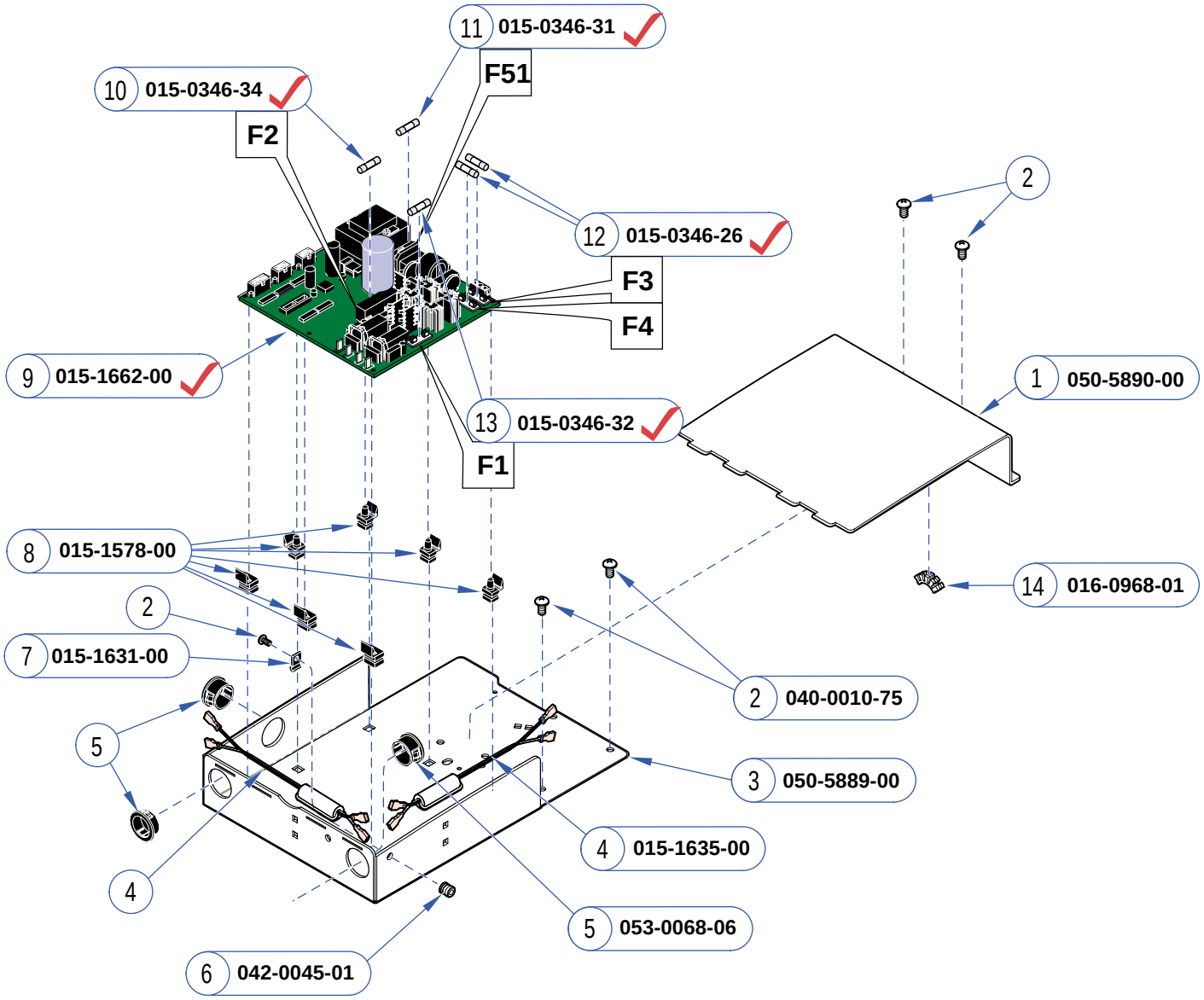

Item	Description	Qty.
1	Cover	1
2	Screw *(10-24 x .37")*	5
3	Base Plate	1
4	Motor Core Assembly	1
5	Split Grommet	3
6	Nutsert	2
7	Cable Clamp	1
8	PC Board Standoff	7
9	PC Board *(2 function)*	1
10	Slo-blo Fuse *(4 amp, 250v, .25" x 1.25")*	1
11	Slo-blo Fuse *(.18 amp, 250v, .25" x 1.25")*	1
12	Slo-blo Fuse *(10 amp, 250v, .25" x 1.25")*	2
13	Slo-blo Fuse *(5 amp, 250v, .25" x 1.25")*	1
14	Plastic Edge Trim	1

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PC Board / Enclosure
(223 / 623)

Serial Number Breaks	***223***	***623***
	all	all

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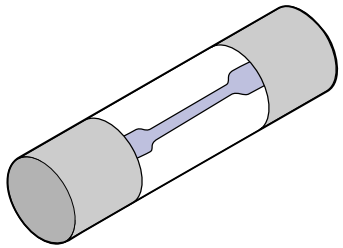

Fuse:	Location:	Functions affected:	Rating:	Midmark Part Number:
Primary Fuses (2)	Main PC Board [F1 & F2]	All	10A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-26
Base Motor Fuse	Main PC Board [F3]	Base Up / Base Down	5A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-31
Transformer Fuse	Main PC Board [F4]	All	187mA, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-32
Back Motor Fuse ***(223 / 623 only)***	Main PC Board [F5]	Back Up / Back Down	4A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-34
Drawer Heater Fuses (2) ***(optional)***	Distribution Board	Drawer Heater	800mA, 250V, Slo-Blo, 5 x 20 mm	015-0346-25
Upholstery Heater Fuses (2) ***(optional)***	Upholstery PC Board	Upholstery Heater	1/2 A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-05
230 Volt Transformer Fuses (2) ***(230 VAC models only)***	IEC Inlet	All	4A, 250V, Slo-Blo, 5 x 20 mm	015-0346-01

MA637600i

Serial Number Breaks	***222***	***223***	***622***	***623***
	all	all	all	all

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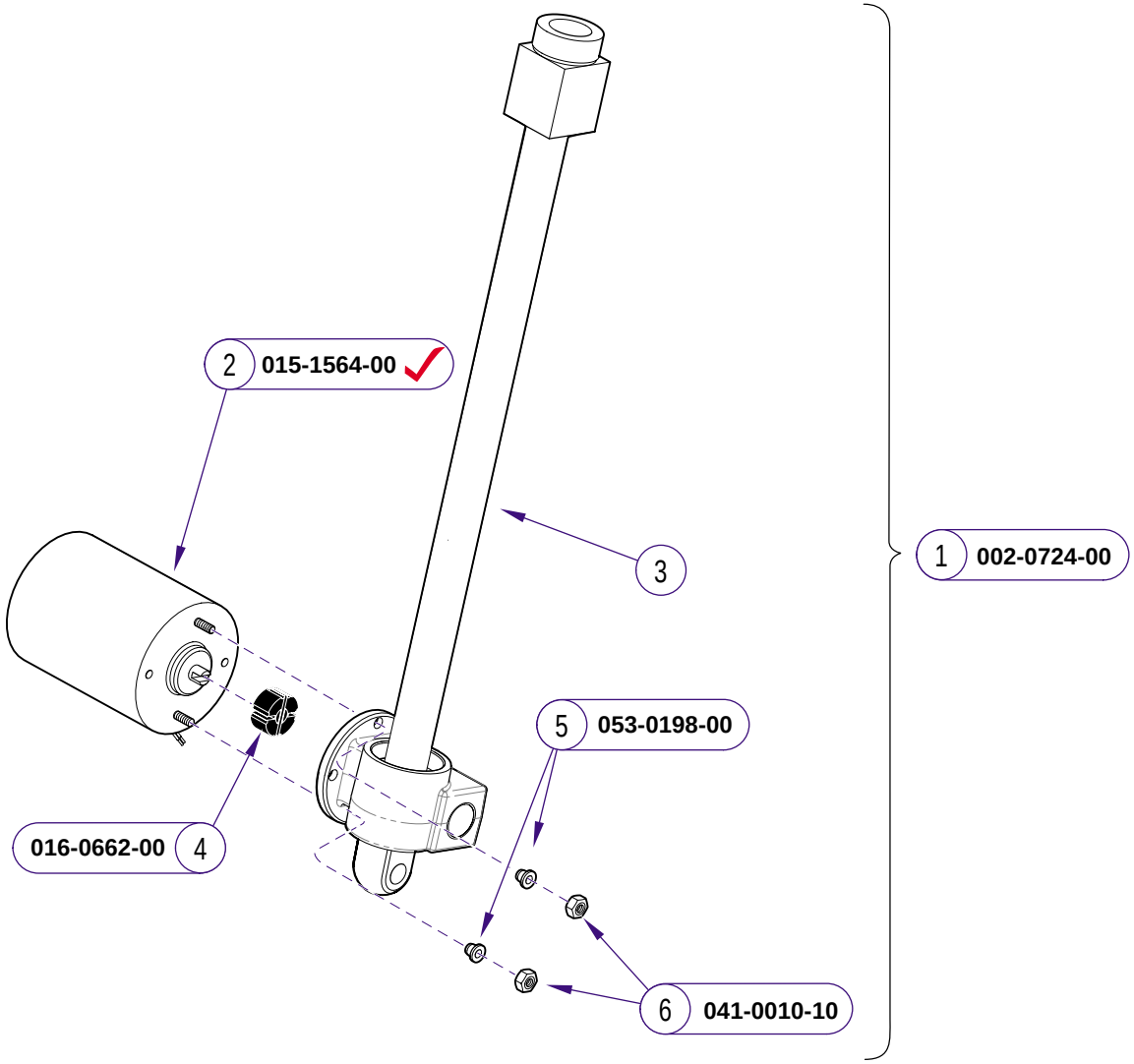

MA610900i

Item	Description	Qty.
1	Actuator Assembly Kit *(includes items 2 thru 6)*	1
2	• Motor	1
3	• Ball Screw Asm. *(not available separately)*	1
4	• Coupler	1
5	• Shoulder Washer	2
6	• Nut	2

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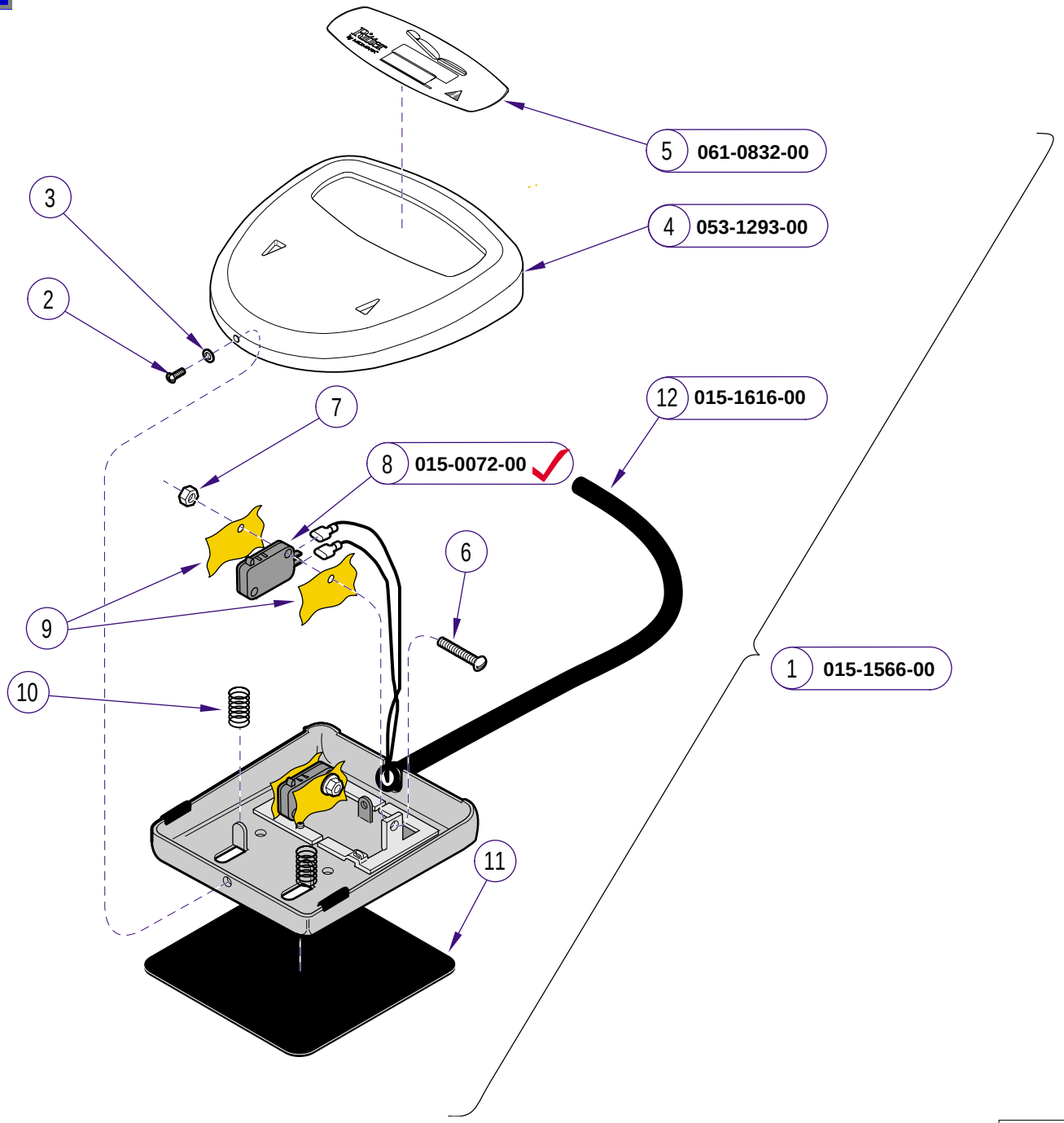
Base

Actuator

Serial Number Breaks	***222***	***223***	***622***	***623***
	all	all	all	all



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Item	Description	Qty.
1	Foot Control Assembly *(includes items 2 thru 12)*	1
2	• Screw *(not available)*	1
3	• Washer *(not available)*	1
4	• Footswitch Cover	1
5	• Label	1
6	• Screw *(not available)*	2
7	• Nut *(not available)*	2
8	• Foot Control Switch	2
9	• Insulator *(not available)*	2
10	• Spring *(not available)*	2
11	• Rubber Pad *(not available)*	1
12	• Cable	1

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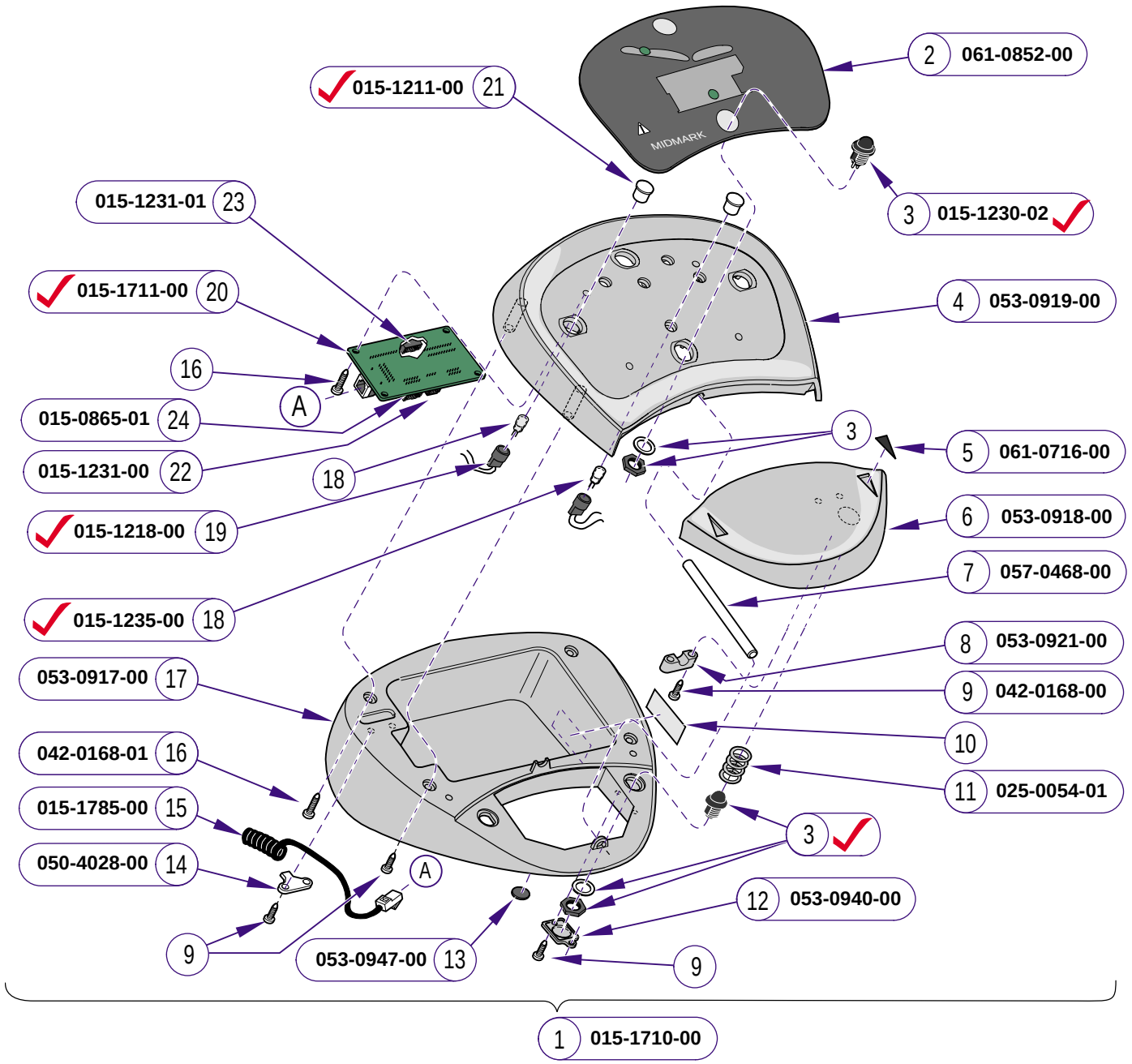
Serial Number Breaks	***222***	***622***
	all	all

Foot Control
(222 / 622)



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Item	Description	Qty.
1	Two Function Foot Control *(includes items 2 thru 24)*	1
2	• Footswitch Label	1
3	• Switch Assembly *(7" leads)*	4
4	• Foot Control Top	1
5	• Up/Down Labels	2
6	• Foot Control Pedal	1
7	• Pivot Shaft	1
8	• Pedal Cap	2
9	• Screw *(metric K 3.5-1.57 x 10mm)*	12
10	• Serial Number Label *(not available)*	1
11	• Spring	2
12	• Switch Cover	2
13	• Stem Bumper	8
14	• Strain Relief	1
15	• Retractable Cord	1
16	• Screw *(metric K 3.5-1.57 x 16mm)*	6
17	• Foot Control Base	1
18	• Green LED *(w/ leads)*	2
19	• Connector Assembly	2
20	• Two Function Control Board	1
21	• Clear Lens	2
22	• Modular Connector	1
23	• Receptacle Housing *(4 position)*	2
24	• Receptacle Housing *(6 position)*	2

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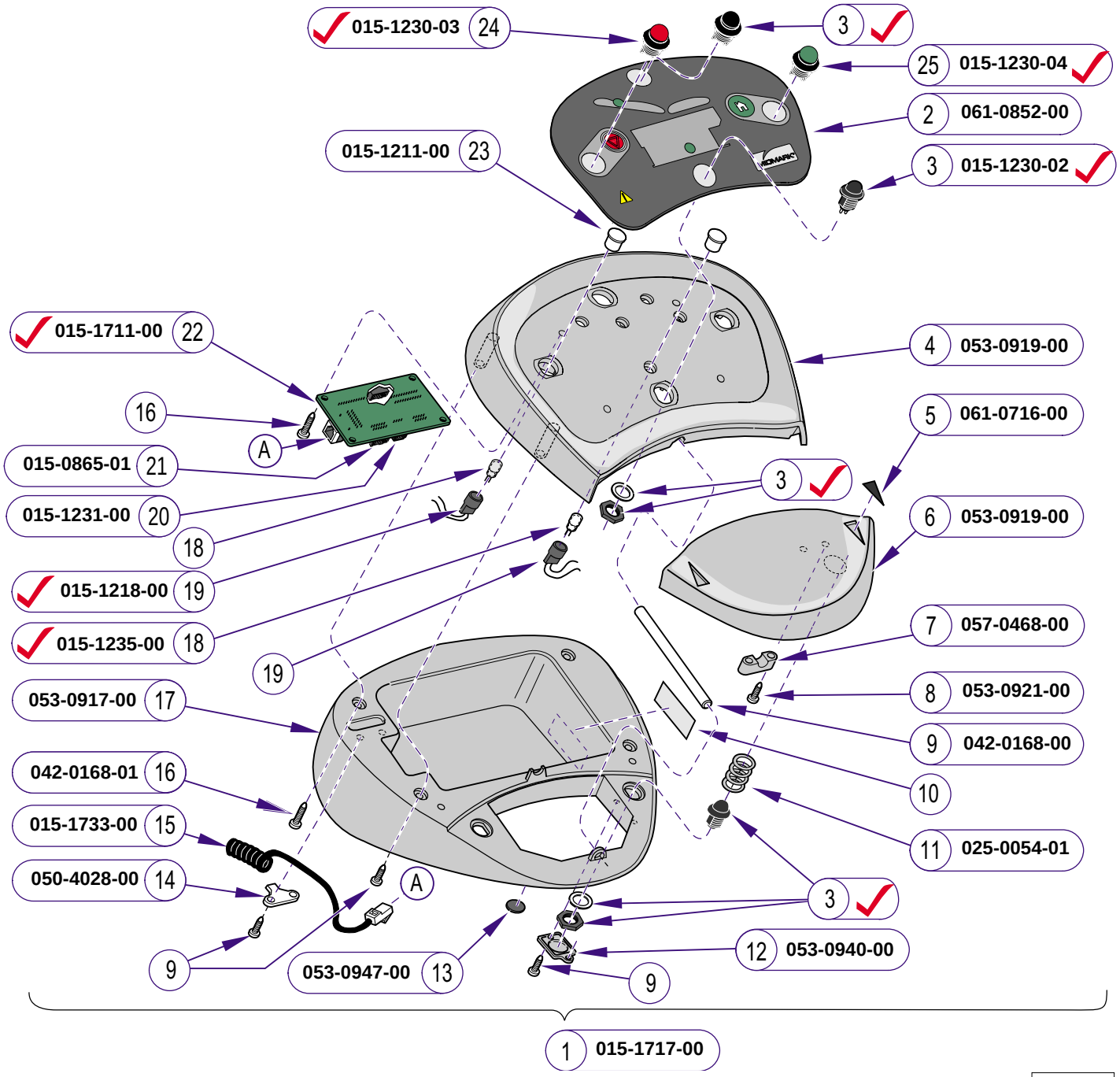
Foot Control
(223)

Serial Number Breaks		***223*** all		



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Item	Description	Qty.
1	Two Function Foot Control *(Programmable)* *(includes items 2 thru 25)*	1
2	• Footswitch Label	1
3	• Switch Assembly *(7" leads)*	4
4	• Foot Control Top	1
5	• Up/Down Labels	2
6	• Foot Control Pedal	1
7	• Pivot Shaft	1
8	• Pedal Cap	2
9	• Screw *(metric 3.5 x 10mm)*	12
10	• Serial Number Label *(not available)*	1
11	• Spring	2
12	• Switch Cover	2
13	• Stem Bumper	8
14	• Strain Relief	1
15	• Retractable Cord	1
16	• Screw *(metric 3.5 x 16mm)*	6
17	• Foot Control Base	1
18	• Green LED *(w/ leads)*	2
19	• Connector Assembly	2
20	• Receptacle Housing *(4 position)*	2
21	• Receptacle Housing *(6 position)*	2
22	• Two Function Control Board	1
23	• Clear Lens	2
24	• Switch Assmbly *(red 5" leads)*	1
25	• Switch Assmbly *(green 5" leads)*	1

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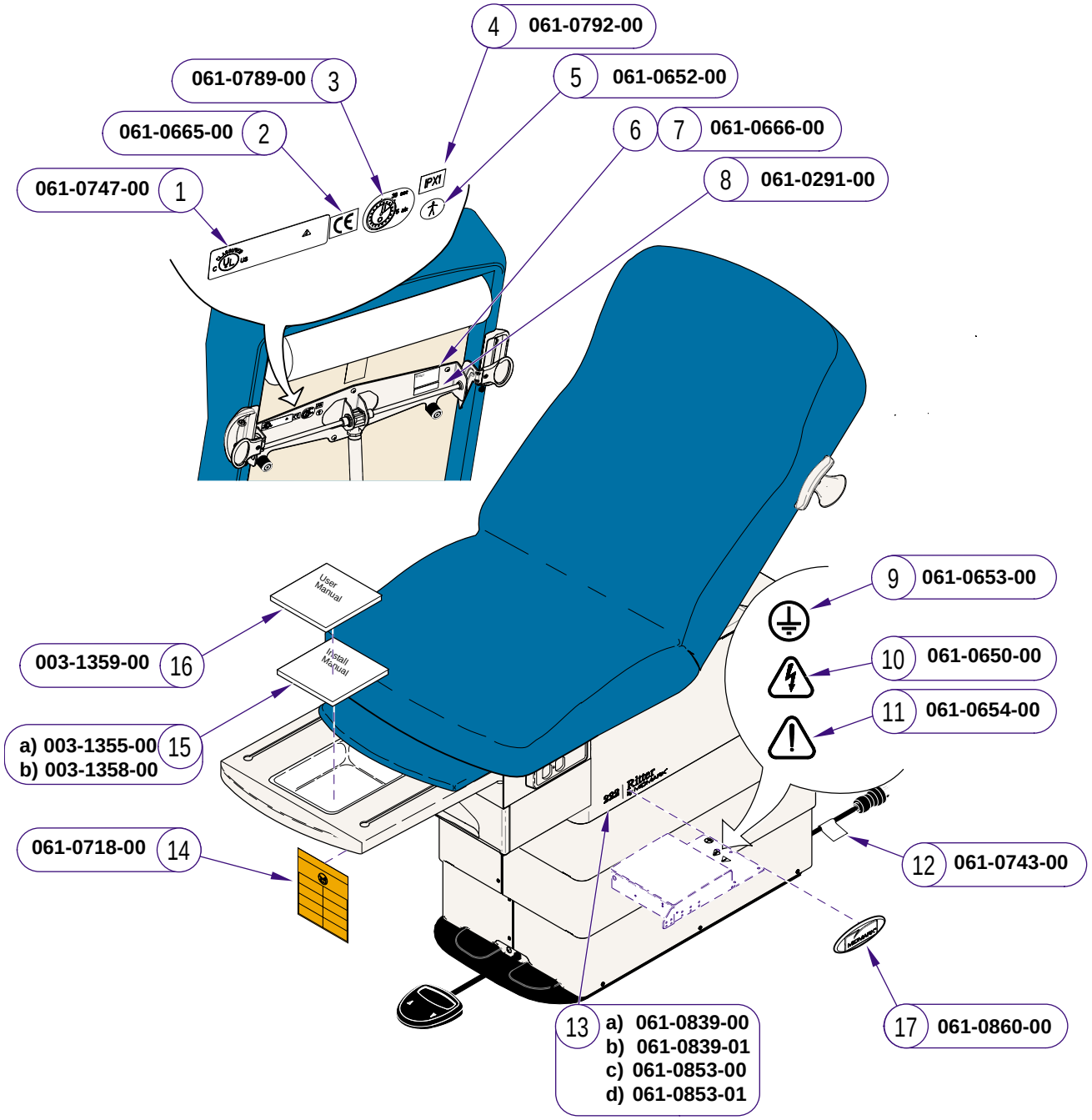
Serial Number Breaks				***623***
				all

Foot Control
(623)



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Item	Description	Qty.
1	C.U.S. Classification Label	1
2	CE Label	1
3	Duty Cycle Label	1
4	IPXI Label	1
5	Type "B" Equipment Label	1
6	Serial Number Tag	1
7	Clear Laminate	1
8	Patent Label	1
9	Ground Label	1
10	Dangerous Voltage Label	1
11	Fuse Replacement Label	1
12	Cord Tag	1
13a	222 Nameplate Label *(left side)*	1
13b	222 Nameplate Label *(right side)*	1
13c	223 Nameplate Label *(left side)*	1
13d	223 Nameplate Label *(right side)*	1
14	Stirrup Lifting Label	1
15a	222/223 User Manual	1
15b	622/623 User Manual	1
16	222/223622/623 Installation Sheet	1

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Label Locations

Serial Number Breaks	***222***	***223***	***622***	***623***
	all	all	all	all

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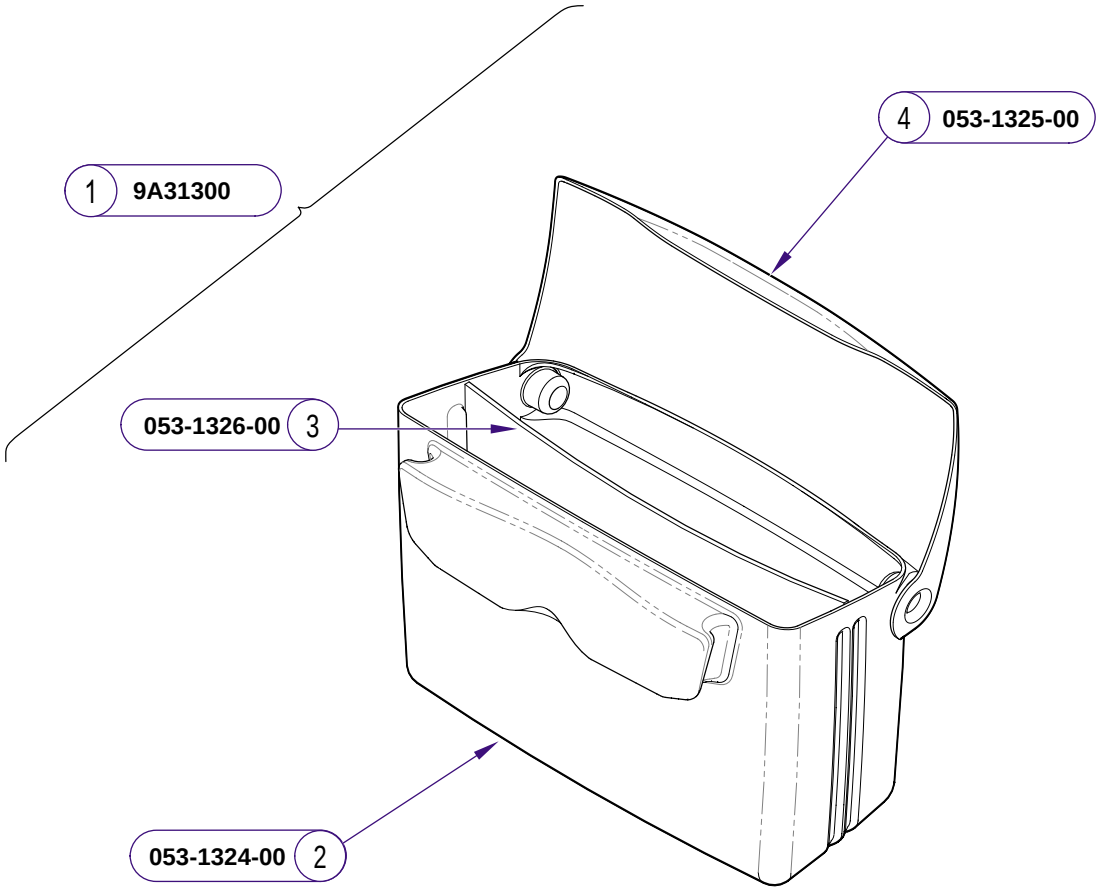

Item	Description	Qty.
1	Storage Pod Assembly	1
	(includes items 2 thru 4)	
2	• Storage Container	1
3	• Storage Divider	1
4	• Storage Container Lid	1

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MA612900i

Serial Number Breaks	622 (-002)	623 (-002)		
	all	all		

Storage Pod

(622 / 623)

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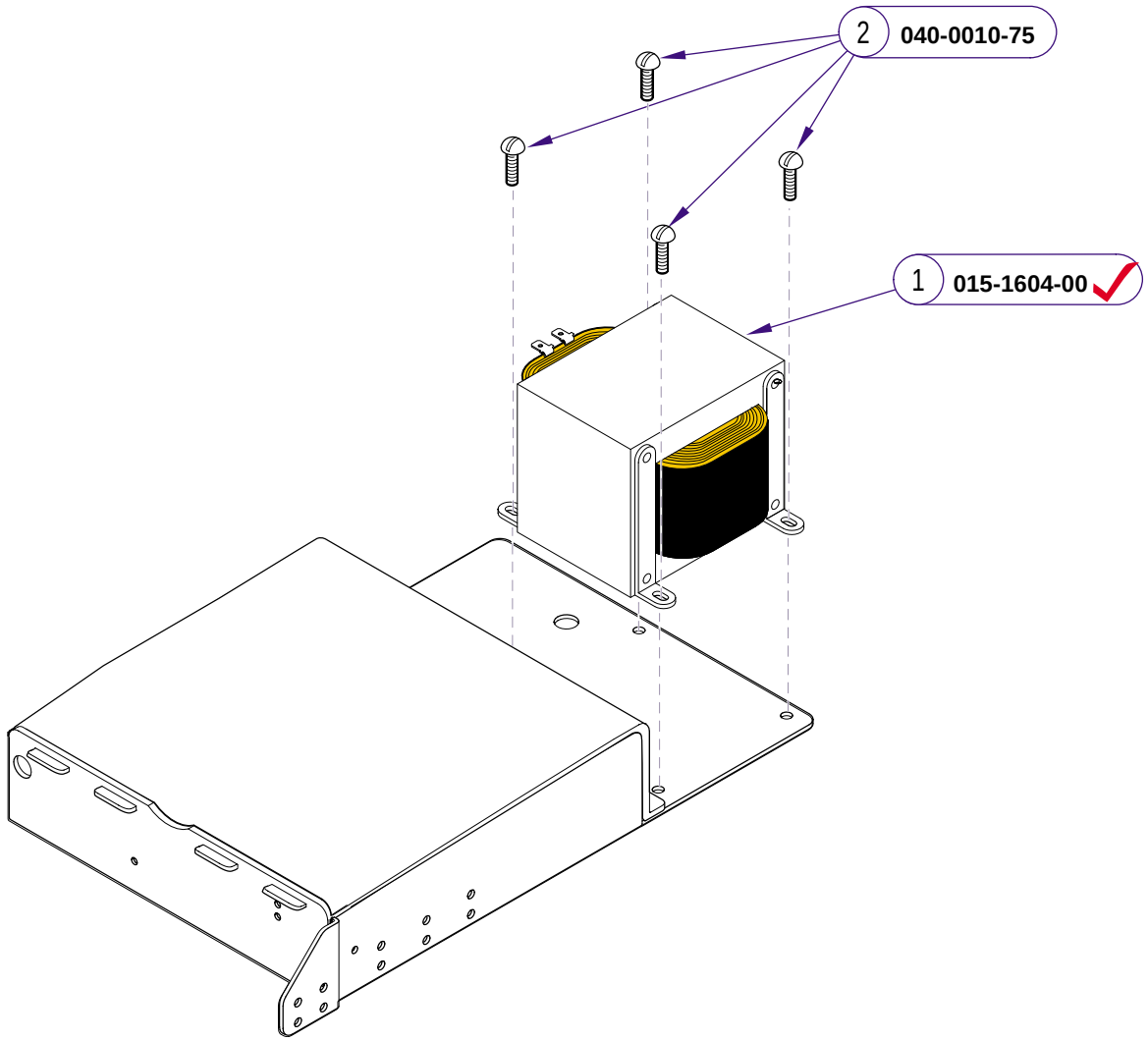

Item	Description	Qty.
1	Transformer	1
2	Screw	4

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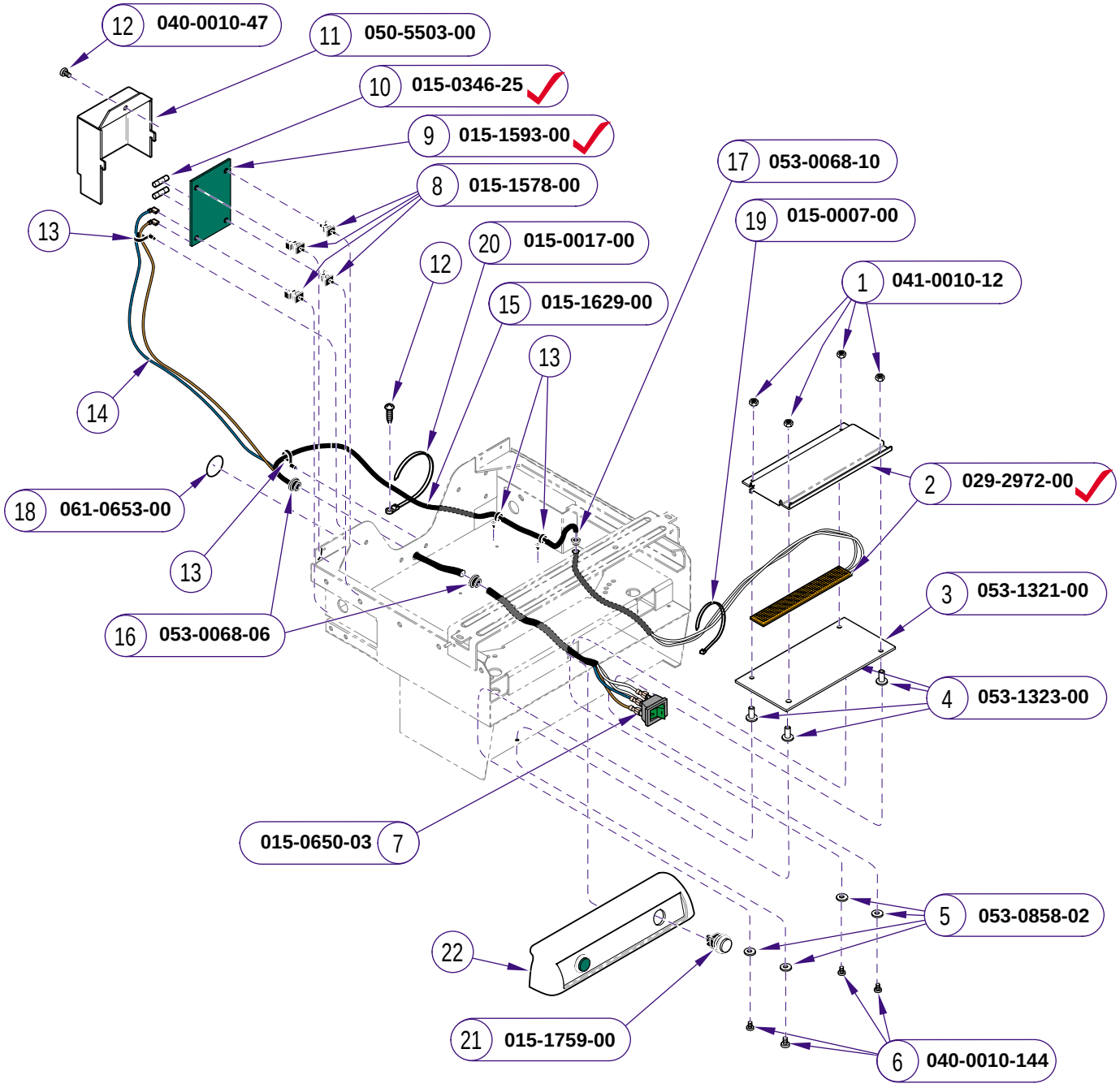
230 Volt

Transformer

Serial Number Breaks	***222 (-009 & -010)***	***223 (-009 & -010)***		
	all	all		



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Item	Description	Qty.
1	• Nut *(#10-32)*	4
2	• Heater Plate Assembly	1
3	• Heater Insulation	1
4	• Nylon Shoulder Washer	4
5	• Nylon Washer	4
6	• Screw *(#10-32 x .5")*	1
7	• Green Heater Switch *(222/223 only)*	1
8	• PC Board Standoff	4
9	• Distribution Board	1
10	• Fuse	2
11	• Distribution Board Cover	1
12	• Screw *(#10-24 x .37")*	1
13	• Wrap-N-Tap	4
14	• Distribution Harness *(refer to "Section D" for part number)*	1
15	• Heater Harness *(refer to "Section D" for part number)*	1
16	• Snap Bushing	2
17	• Snap Bushing	1
18	• Earth Ground Label	1
19	• Cable Tie	1
20	• Cable Tie	2
21	• White Heater Switch *(622/623 only)*	1
22	• Switch Housing *(Refer to"Upper Wrap Comp." for breakdown)*	1

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Serial Number Breaks	***222 (-003/-004/-007)*** ***222 (-008/-010)***	***223 (-003/-004/-007)*** ***223 (-008/-010)***	***622 (-002)***	***623 (-002)***
	all	all	all	all

Drawer Heater Components

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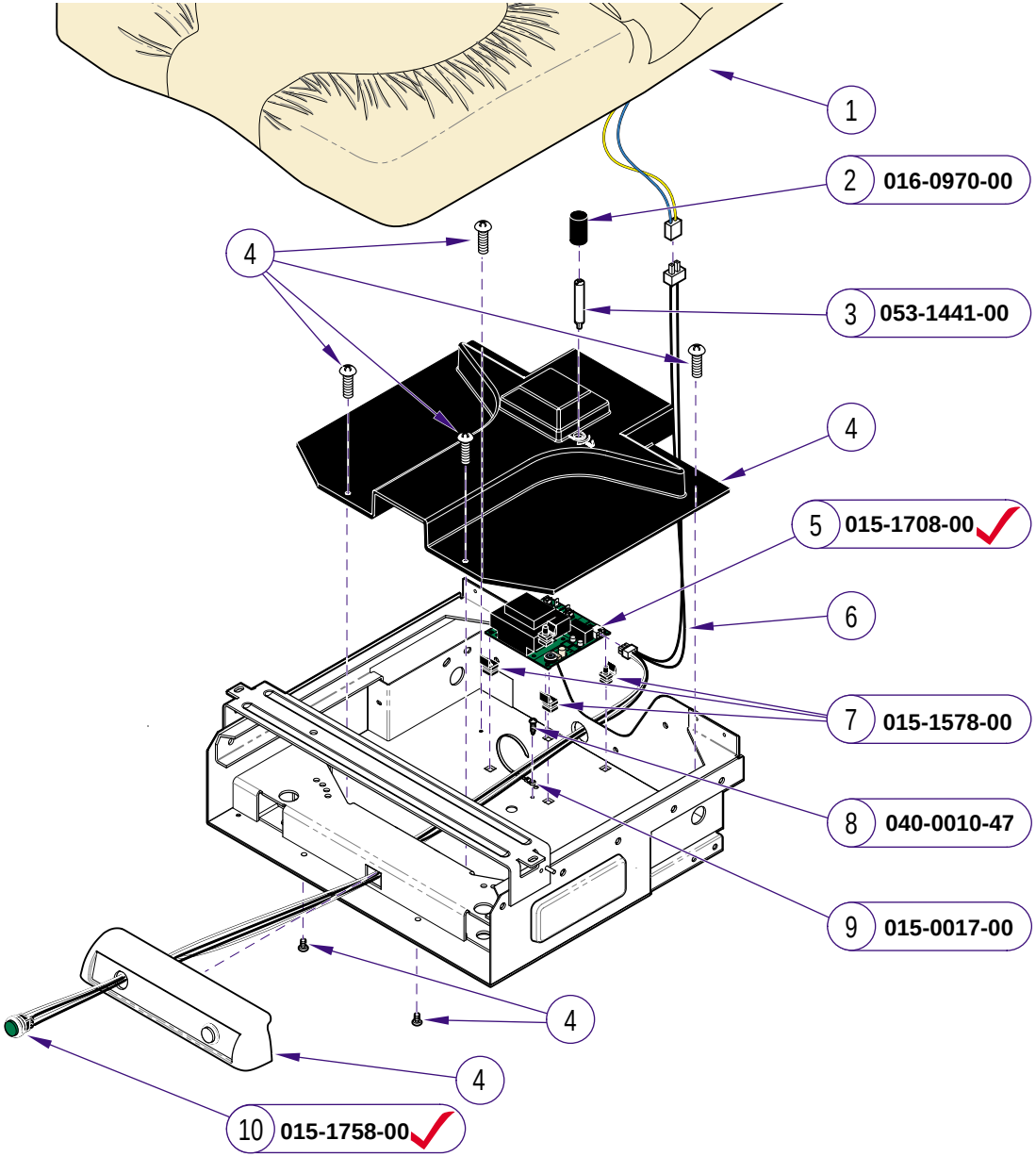

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Item	Description	Qty.
1	Upholstery Set *(w/ Heater)*	Ref
	(refer to "Upholstery Comp." for breakdown)	
2	Adjustment Knob	1
3	Adjustment Shaft	1
4	Stirrup Guide	Ref
	(refer to "Upperwrap Comp." for breakdown)	
5	PC Board	1
6	Harness Assembly	Ref
	(refer to "Section D" for part number)	
7	PC Board Standoffs	4
8	Screw *(10-24 x .37")*	AR
9	Cable Tie	AR
10	Switch	1

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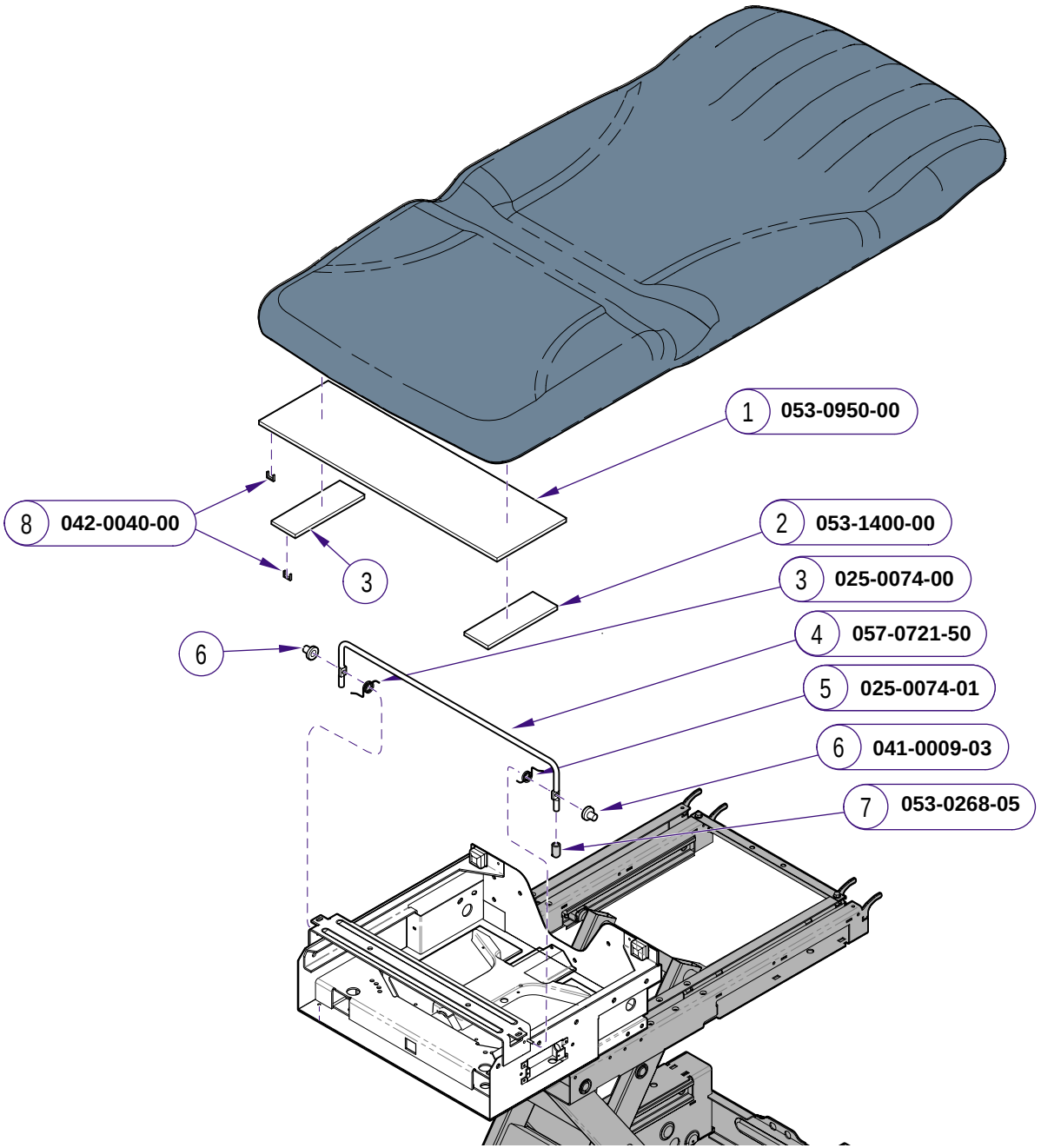
Upholstery Heater Components

Serial Number Breaks			***622 (-002)***	***623 (-002)***
			all	all



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Item	Description	Qty.
1	• Scuff Plate *(222/223 only)*	1
2	• Scuff Plate *(622/623 only)*	1
3	• R.H. Pelvic Lift Spring	1
4	• Pelvic Lift	1
5	• L.H. Pelvic Lift Spring	1
6	• Push Nut	2
7	• Vinyl End Cap	2
8	• Staple	AR

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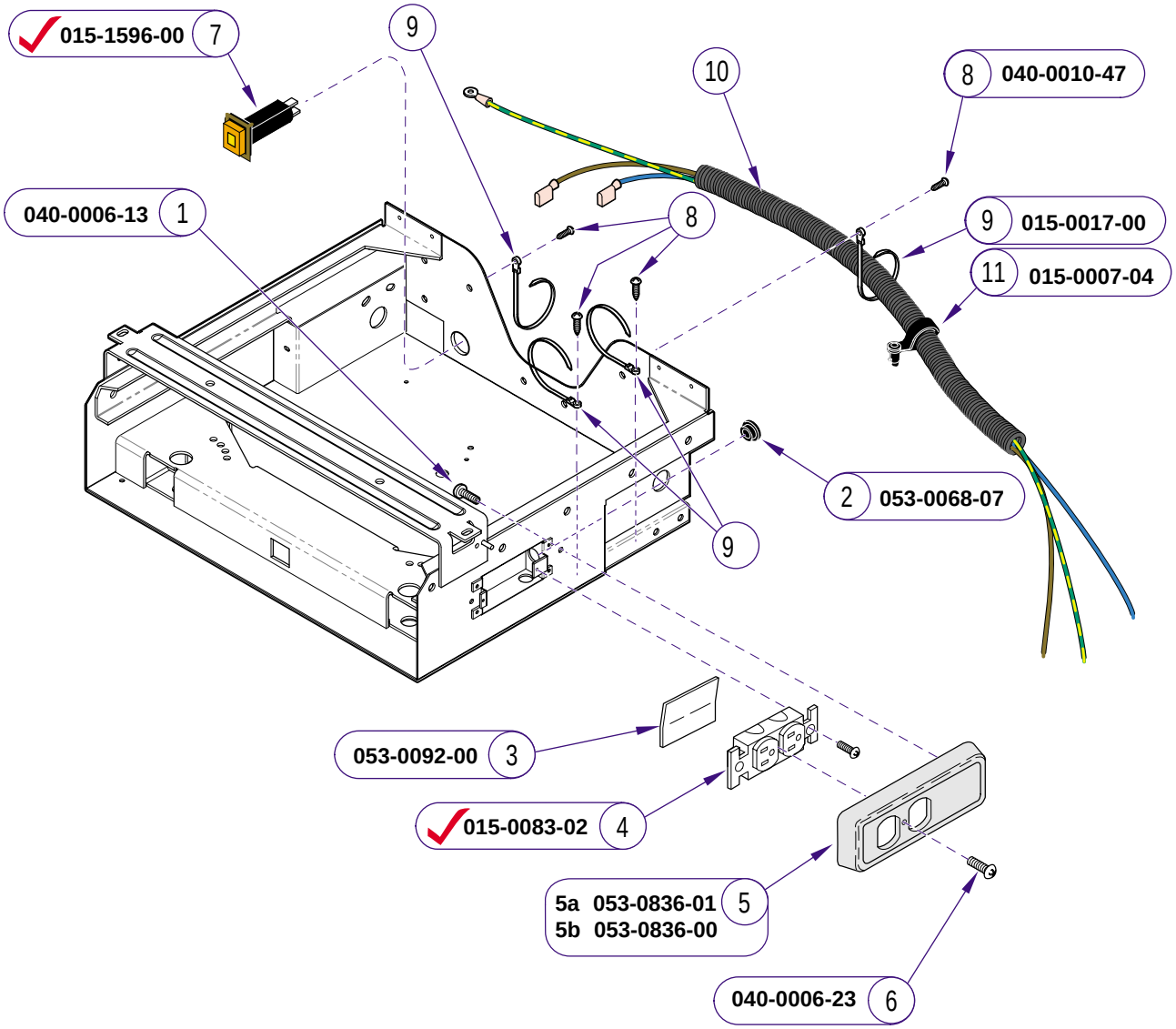
Serial Number Breaks	***222 (-003/-004)*** ***222 (-007 thru -010)*** all	***223 (-003/-004)*** ***223 (-007 thru -010)*** all	***622 (-002)*** all	***623 (-002)*** all

Pelvic Tilt

Components



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Item	Description	Qty.
1	• Screw *(#6-32)*	2
2	• Snap Bushing	1
3	• Fishpaper Insulator	1
4	• Duplex Recepticle *(includes screws)*	1
5a	• Recepticle Cover (Pebble Gray, used on 222/223)	1
5b	• Recepticle Cover (Sand Gray, used on 622/623)	
6	• Flat Head Screw *(#6-32 x 1")*	1
7	• Circuit Breaker	1
8	• Screw *(#10-24 x .37")*	4
9	• Cable Tie	4
10	• Receptacle Harness *(Refer to "Section D" for part number)*	1
11	• Wrap-N-Tap	3

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Receptacle Components

Serial Number Breaks	***222***	***223***	***622***	***623***
	all	all	all	all

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FAX ORDERING FORM

(SERVICE PARTS ONLY)

Do not tear out this page. Photo copy this page for use only.

DATE: _____

ATTENTION: SERVICE DEPARTMENT

FAX#: 937-526-5542

DEALER P.O. #: _____

NOTE: USE FOR NON-WARRANTY FAX ORDERS ONLY. WARRANTY ORDERS MUST BE TELEPHONED IN.

ACCOUNT #:	MODEL #:	SERIAL #:

NAME: _____

ADDRESS: _____

CITY, ST.: _____

CONTACT: _____

PHONE: _____

FAX #: _____

SHIP TO: _____

METHOD OF SHIPMENT: _____

QTY.	PART #	DESCRIPTION (SPECIFY COLOR OF ITEM IF APPLICABLE)

_____ NON-EMERGENCY ORDER - TO SHIP WITHIN 72 HOURS IF PART(S) IN STOCK.

_____ EMERGENCY ORDER - TO SHIP WITHIN 24 HOURS IF PART(S) IN STOCK (IF ORDER IS RECEIVED BEFORE 2:30 P.M. E.S.T).

A 5% DISCOUNT WILL APPLY IF ALL BLOCKED AREAS ARE COMPLETED - SUBJECT TO MIDMARK'S APPROVAL.

FAX DISCOUNT: _____ 0999948 _____ K0999948 **DISCOUNT** _____ %

_____ 0999949 _____ K0999949

CONFIRMING THAT YOUR ORDER HAS BEEN SHIPPED ON: _____

SHADED AREA TO BE FILLED OUT BY MIDMARK PERSONNEL ONLY.

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